

-600-

82-AspProHisSerGluTyrMetAspLysLysGlyTyrAlaGluIleLysGluSerThrSerGlyGluPheGlyGly-106
 111-IleGlyGlnGluAspGlyPhe-117
 122-SerProIleGluAspThrProAlaGluArgAlaGlyValLysSerGlyAspPhe-139
 144-AspAsnValSerThrArgGlyMetThr-152
 155-GluAlaValLysLysMetArgGlyLysProGlyThrLysIle-168
 172-LeuSerArgLysAsnAlaAspLysProIle-181
 199-LeuIleGluProAspTyrGlyTyr-206
 211-GlnPheGlnGluArgThrValGlu-218
 221-AsnThrAlaAlaLysGluLeuValLysGluAsnLysGlyLysProLeuLys-237
 242-AspLeuArgAspAspProGlyGlyLeu-250
 269-ValSerThrLysGlyArgAspGlyLysAspArgMetVal-281
 284-AlaValProGluAspTyrVal-290
 293-MetGlyGlyAspSerLeuAla-299
 303-AlaGluLeuLysThr-307
 316-SerGlySerAlaSerAla-321
 330-GlnAspHisLysArgAlaVal-336
 340-ThrGlnSerPheGlyLysGlySerVal-348
 354-LeuSerAsnGlySer-358
 368-TyrThrProAsnAspArgSerIleGln-376
 384-ValGluValLysAspLysGluArgIlePheGluSerArgGluAlaAspLeu-400
 405-GlyAsnProLeuGlyGlyGluAspValAsnSerGlu-416
 421-ProLeuGluLysAspAlaAspLysProAlaValLysGluLysGlyLysLysLysAspGluAspLeuSer
 SerArgArgIleProAsnProAlaLysAspAspGlnLeuArgLysAlaLeuAspLeuValLysSerProGluGlnT
 rpGlnLys-472
 477-AlaAlaLysLysProValSerAsnLysAspLysLysAspLysLysAspLysLys-494

Hydrophilic Regions - Hopp-Woods

30-AlaAlaGluLysAspArgArgAspAsnGluVal-40
 60-TyrTyrGlnAspLysProAspAlaAspLeuPhe-70
 82-AspProHisSerGluTyrMetAspLysLysGlyTyrAlaGluIleLysGluSerThrSerGlyGlu-103
 111-IleGlyGlnGluAspGlyPhe-117
 122-SerProIleGluAspThrProAlaGluArgAlaGlyValLysSerGlyAspPhe-139
 144-AspAsnValSerThr-148
 155-GluAlaValLysLysMetArgGlyLysProGlyThr-166
 172-LeuSerArgLysAsnAlaAspLysProIle-181
 211-GlnPheGlnGluArgThrValGlu-218
 221-AsnThrAlaAlaLysGluLeuValLysGluAsnLysGlyLysProLeuLys-237
 242-AspLeuArgAspAspProGly-248
 271-ThrLysGlyArgAspGlyLysAspArgMetVal-281
 303-AlaGluLeuLysThr-307
 330-GlnAspHisLysArgAlaVal-336
 370-ProAsnAspArgSerIleGln-376
 384-ValGluValLysAspLysGluArgIlePheGluSerArgGluAlaAspLeu-400
 408-LeuGlyGlyGluAspValAsnSer-415
 421-ProLeuGluLysAspAlaAspLysProAlaValLysGluLysGlyLysLysLysAspGluAspLeuSer
 SerArgArgIleProAsnProAlaLysAspAspGlnLeuArgLysAlaLeuAspLeuValLysSerProGluGlnT
 rpGln-471
 477-AlaAlaLysLysProValSerAsnLysAspLysLysAspLysLysAspLysLys-494
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AMPHI Regions - AMPHI

6-ThrLeuSerArgLeuSer-11
 33-TyrGlyGlyTyrProAspThrValTyrGluGly-43
 53-LysGlnThrGluLysMetGluLysTyrPheVal-63
 92-GlyAlaPheArgGlnPheGluGlu-99

Antigenic Index - Jameson-Wolf

2-MetAsnProLysThrLeuSer-8
 22-CysGlyGlyAsnGlyGlnLysSer-29
 33-TyrGlyGlyTyrProAspThrValTyrGluGlyLeuLysAsnAspAspThrSerLeuGlyLysGlnThrGluLysMetGluLysTyrPhe-62
 65-AlaGlyAsnLysLysMetAsnAlaAlaProGlyAla-76
 84-LeuSerArgSerGlyAspLysGluGlyAlaPheArgGlnPheGluGluGluLysArgLeuPheProGlu-106
 115-MetLysThrGlyLysGlyGlyLysArg-123

Hydrophilic Regions - Hopp-Woods

40-ValTyrGluGlyLeuLysAsnAspAspThrSerLeuGlyLysGlnThrGluLysMetGluLysTyrPhe-62
 65-AlaGlyAsnLysLysMetAsnAla-72
 86-ArgSerGlyAspLysGluGlyAlaPheArgGlnPheGluGluGluLysArgLeuPhePro-105
 115-MetLysThrGlyLysGlyGlyLysArg-123

a734**AMPHI Regions - AMPHI**

19-ArgAlaAlaAspThrTyr-24
 26-TyrLeuAlaValTrpGlnAsnProGlnAsnAlaAsnAspValLeuGlnVal-42
 53-GluAlaPheAlaGluLeuGluAlaPheCysLys-63
 77-ThrGlyCysArgSerValValSer-84
 92-LeuAlaTyrProLysAlaLeuGlyAlaMetArg-102
 113-ArgPheThrSerVal-117
 119-GlnValAlaLeuAsnGlnCysIleLysLys-128

Antigenic Index - Jameson-Wolf

18-AlaArgAlaAlaAsp-22
 31-GlnAsnProGlnAsnAlaAsnAsp-38
 43-LysThrThrLysGluAspSerThrLysSerGluAlaPheAlaGlu-57
 60-AlaPheCysLysGlyGlnAspThr-67
 71-IleAlaGluAspGluProThrGlyCysArgSer-81
 101-MetArgValGluAsn-105
 125-CysIleLysLysTyrGlyAlaGlnGly-133
 145-SerSerTyrTyrGly-149

Hydrophilic Regions - Hopp-Woods

18-AlaArgAlaAlaAsp-22
 43-LysThrThrLysGluAspSerThrLysSerGluAlaPheAlaGlu-57
 60-AlaPheCysLysGlyGlnAspThr-67
 71-IleAlaGluAspGluProThrGlyCys-79
 101-MetArgValGluAsn-105
 125-CysIleLysLysTyrGlyAla-131

a735**AMPHI Regions - AMPHI**

6-LeuLeuAlaAsnAsn-10
 12-GlnProIleAlaIleIleAla-18
 61-TyrAlaArgGluLeuGlu-66
 118-GlyCysIleAspGlyPheGly-124

Antigenic Index - Jameson-Wolf

28-HisHisGlnGlyTyrLysSerAlaPheAlaLysGln-39
 41-AlaValIleGluLysMetLysArgAspLysAlaGln-52
 60-AsnTyrAlaArgGluLeuGluGlnAlaArgAlaGluAlaLysLysTyrGluValLysAla-79
 86-LeuAlaLysLysGlnAlaGluValSerArgLeuLysThrGluAsnLysLysGluIleGluAsn-106
 108-LeuThrGlnAspArgLysAsnAlaGlyGlyGlyCysIleAspGlyPheGly-124

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135-LeuGlyTyrGlyAsn-139

Hydrophilic Regions - Hopp-Woods

41-AlaValIleGluLysMetLysArgAspLysAlaGln-52
 60-AsnTyrAlaArgGluLeuGluGlnAlaArgAlaGluAlaLysLysTyrGluValLysAla-79
 86-LeuAlaLysLysGlnAlaGluValSerArgLeuLysThrGluAsnLysLysGluIleGluAsn-106
 108-LeuThrGlnAspArgLysAsnAlaGly-116

a736**AMPHI Regions** - AMPHI

13-GlyLeuIleGlnSerLeuGlySer-20
 50-GlyValLeuSerVal-54
 61-GlyLeuPheValGly-65
 70-LeuGlnGlyTyrThrGlnLeuSerLysPheLysSerAlaAspIle-84
 93-LeuLeuArgGluLeuGlyProVal-100
 120-LeuMetLysThrThrGluGlnLeuGluAlaMetAsnValMet-133
 135-ValAsnProValAlaArgValVal-142
 144-ProArgPheTrpAlaGlyValPheSerMetPro-154
 156-LeuAlaSerIlePheAsnValAlaGlyIlePheGlyAla-168
 196-AspValIleAsnGlyLeu-201
 230-LeuArgAlaSerThrArgThr-236

Antigenic Index - Jameson-Wolf

37-ValArgProArgLeuSerVal-43
 77-SerLysPheLysSer-81
 93-LeuLeuArgGluLeuGly-98
 109-SerAlaGlyGlyAlaMetThrSer-116
 122-LysThrThrGluGlnLeuGlu-128
 186-GlnMetGlnAsnAsn-190
 224-ProThrSerGluGlyIleLeuArgAlaSerThr-234

Hydrophilic Regions - Hopp-Woods

39-ProArgLeuSerVal-43
 77-SerLysPheLysSer-81
 93-LeuLeuArgGluLeuGly-98
 122-LysThrThrGluGlnLeuGlu-128

a737**AMPHI Regions** - AMPHI

56-AlaAlaLeuAlaArgValGlyGly-63

Antigenic Index - Jameson-Wolf

24-AlaHisHisAspGlyHisGlyAspAspHisGlyHis-36
 40-GlnHisSerLysGlnAspLysIleIleSer-49
 51-AlaGlnAlaGluLysAlaAlaLeu-58
 60-ArgValGlyGlyLysIleThrAspIleAspLeuGluHisAspAsnGlyArgProHisTyrAspValGluIleValLysAsnGlyGlnGluTyr-90
 94-ValAspAlaArgThrGlyArgValIleSerSerArgArgAsp-108

Hydrophilic Regions - Hopp-Woods

27-AspGlyHisGlyAspAspHisGlyHis-36
 40-GlnHisSerLysGlnAspLysIleIleSer-49
 51-AlaGlnAlaGluLysAlaAlaLeu-58
 61-ValGlyGlyLysIleThrAspIleAspLeuGluHisAspAsnGlyArgProHisTyr-79
 82-GluIleValLysAsnGlyGlnGluTyr-90
 94-ValAspAlaArgThrGlyArg-100
 102-IleSerSerArgArgAspAsp-108

a738**AMPHI Regions - AMPHI**

91-LeuMetAsnLeuIleTyrProGlyMetAsnAsp-101
 139-IleGlySerLeuLeuGlnSerCysIle-147
 228-ThrTyrIleAlaAlaIleAlaLeuIle-236
 271-ThrIleLeuGluThrPheThrGlyIle-279
 285-ValGluArgValAlaAsnGlyGlyPheThrAspLeuProArgGlnIle-300
 306-LeuAlaAlaPheGlnSer-311
 316-GlyHisGlyTrpAsnSerPheAla-323
 338-AspAsnLeuLeuSerAsnLeuPheThr-346
 371-LeuLeuThrGlyIleAlaGlyLeuLeuLysArg-381
 398-MetCysHisSerMetLeu-403
 461-ArgMetValAsnAlaPheSerPro-468
 472-AspSerAlaLysThrLeuAsnArgLys-480
 482-AsnGluLeuArgTyrIleSer-488
 507-LeuProGluTyrProGluThr-513
 549-AlaLysGlnTrpMetArgAlaThr-556
 567-TyrAlaAspGluIleArgLysLeuProVal-576
 579-ProLeuLeuProGluLeuLeuLysAspCysLysAlaPheAlaAlaAlaPro-595

Antigenic Index - Jameson-Wolf

38-LeuGlnProSerProAspPheTyrHis-46
 62-AlaGlyLysLysLeuPheAsp-68
 123-HisTyrGlyGlnGluArgIle-129
 154-GlyTrpGluAspThrProLeu-160
 177-GlyGlnArgAsnAsnLeuGly-183
 196-LeuAsnGlyGlnArgLysIleProPro-204
 242-PheArgSerAspLysSerAsnArgArgThrIle-252
 283-ThrAlaValGluArgValAlaAsnGlyGlyPheThrAspLeuProArgGlnIleGluTrpArgLys-304
 316-GlyHisGlyTrpAsnSerPheAla-323
 332-GluGlnHisAsnIleHisAspAsnLeuLeu-341
 378-LeuLeuLysArgProLeuThr-384
 424-ProAlaGluAlaSerAspGlyIleAlaPheLysLysAlaAla-437
 468-ProAlaThrAspAspSerAlaLysThrLeuAsnArgLysIleAsnGlu-483
 508-ProGluTyrProGluThrGlnThrTrpAlaGlu-518
 520-AlaThrLeuLysSerLeuLysTyrArgProHisSerAla-532
 542-ArgGlnGlyLysValAlaGluAlaLysGlnTrpMet-553
 555-AlaThrGlnSerTyr-559
 566-ArgTyrAlaAspGluIleArgLys-573
 584-LeuLeuLysAspCysLysAla-590
 595-ProGlyHisProGluAlaLysProCysLys-604

Hydrophilic Regions - Hopp-Woods

62-AlaGlyLysLysLeuPheAsp-68
 125-GlyGlnGluArgIle-129
 198-GlyGlnArgLysIlePro-203
 243-ArgSerAspLysSerAsnArgArgThrIle-252
 283-ThrAlaValGluArgValAla-289
 300-IleGluTrpArgLys-304
 332-GluGlnHisAsnIle-336
 378-LeuLeuLysArgProLeuThr-384
 425-AlaGluAlaSerAsp-429
 431-IleAlaPheLysLysAlaAla-437
 469-AlaThrAspAspSerAlaLysThrLeuAsnArgLysIleAsnGlu-483
 525-LeuLysTyrArgPro-529

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542-ArgGlnGlyLysValAlaGluAlaLysGlnTrpMet-553

566-ArgTyrAlaAspGluIleArgLys-573

584-LeuLeuLysAspCysLysAla-590

596-GlyHisProGluAlaLysProCysLys-604

a739**AMPHI Regions - AMPHI**

6-AsnLysProPheArgLeu-11

53-HisThrAspSerPro-57

86-ProAlaGlnProAspGlyThrAsp-93

120-ThrAspArgGlnProAspAspAlaGlyAla-129

131-AlaGluAsnThrLeu-135

Antigenic Index - Jameson-Wolf

1-MetAlaLysLysProAsnLysProPheArgLeuThrPro-13

39-PheAsnProAsnGlyAspLysThrLeuGlnThrGluProGlnHisThrAspSerProArgGluThrGluPhe-62

64-LeuProAsnGlyValValGlyGlnAspAlaAlaGlnProGluHisHisHisAlaSerSerSerAlaProAlaGlnProAspGlyThrAspGluSerGlySerGlyLeuProSerProAlaAlaProLysLysAsnArgValLysProGlnProAlaAspThrAlaGlnThrAspArgGlnProAspAspAlaGlyAlaGlnAlaGluAsnThrLeuLysGluThrProValLeuProThrAsnValProArgProGluProArgLysGluThrProGluLysGlnAlaGlnProLysGluThrProLysGluLysGluThrProLysGluAsnHisThrLysProAspThrProLysAsnThrProProLysProHisLysGluIleLeu-193

Hydrophilic Regions - Hopp-Woods

1-MetAlaLysLysProAsnLysProPheArgLeu-11

41-ProAsnGlyAspLysThrLeuGlnThrGluProGlnHisThrAspSerProArgGluThrGlu-61

72-AspAlaAlaGlnProGluHisHisHis-80

87-AlaGlnProAspGlyThrAspGluSerGlySer-97

103-AlaAlaProLysLysAsnArgValLysProGlnProAlaAspThrAlaGlnThrAspArgGlnProAspAspAlaGlyAlaGlnAlaGluAsnThrLeuLysGluThrPro-139

145-ValProArgProGluProArgLysGluThrProGluLysGlnAlaGlnProLysGluThrProLysGluLysGluThrProLysGluAsnHisThrLysProAspThrProLysAsnThrProProLysProHisLysGluIleLeu-193

a740**Antigenic Index - Jameson-Wolf**

25-AlaAsnProProGluAspLysProGln-33

57-IleLysHisHisLeuLysGlnGluPheAspLeuLysArgGlnThr-71

Hydrophilic Regions - Hopp-Woods

27-ProProGluAspLysProGln-33

57-IleLysHisHisLeuLysGlnGluPheAspLeuLysArgGlnThr-71

a741**AMPHI Regions - AMPHI**

30-AspIleGlyAlaValLeuAlaAspAlaLeuThrAla-41

93-SerArgPheAspPheIleArgGlnIleGlu-102

158-ThrSerPheAspLysLeuProGluGlyGlyArg-168

200-IleGluHisLeuLys-204

251-GlnGluValAlaGlySerAlaGlu-258

Antigenic Index - Jameson-Wolf

21-SerSerGlyGlyGly-25

43-LeuAspHisLysAspLysSerLeu-50

56-AspGlnSerValArgLysAsnGluLysLeuLysLeu-67

71-GlyAlaGluLysThrTyrGlyAsnGlyAspSerLeuAsnThrGlyLysLeuLysAsnAspLysValSerArgPheAspPhe-97

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101-IleGluValAspGlyGlnLeu-107
117-ValTyrLysGlnSerHisSerAla-124
129-GlnThrGluGlnValGlnAspSerGluHisSerGlyLysMetValAlaLysArgGlnPheArgIleGlyAsp
IleAlaGlyGluHisThrSerPheAspLysLeuProGluGlyGlyArgAlaThrTyrArg-172
174-ThrAlaPheGlySerAspAspAlaSerGlyLysLeu-185
191-PheAlaAlaLysGlnGlyHisGlyLysIleGluHisLeuLysSerProGluLeuAsnVal-210
213-AlaAlaSerAspIleLysProAspLysLysArgHisAla-225
234-AsnGlnAlaGluLysGlySerTyrSer-242
247-GlyGlyGlnAlaGlnGluValAlaGly-255

257-AlaGluValGluThrAlaAsnGly-264

Hydrophilic Regions - Hopp-Woods

43-LeuAspHisLysAspLysSerLeu-50
57-GlnSerValArgLysAsnGluLysLeuLysLeu-67
71-GlyAlaGluLysThrTyrGlyAsn-78

85-GlyLysLeuLysAsnAspLysValSerArg-94

101-IleGluValAspGly-105
132-GlnValGlnAspSerGluHisSerGly-140

142-MetValAlaLysArgGlnPheArgIle-150

152-AspIleAlaGlyGlu-156

158-ThrSerPheAspLysLeuProGluGlyGlyArgAlaThrTyr-171
177-GlySerAspAspAlaSerGly-183
195-GlnGlyHisGlyLysIleGluHisLeuLysSerProGluLeuAsnVal-210
213-AlaAlaSerAspIleLysProAspLysLysArgHisAla-225
235-GlnAlaGluLysGlySer-240
249-GlnAlaGlnGluValAlaGly-255

257-AlaGluValGluThr-261

a742**AMPHI Regions - AMPHI**

26-ArgGluValProAsp-30
53-AsnArgProLeuGln-57
66-GluAspTrpSerArgLeu-71
77-AsnLeuPheSerGlyPheLysHisValPheAsp-87
143-LysAlaLeuGluLysLeuLysAla-150
153-AspGluThrAlaLysGluTyrArg-160
234-AsnAlaAlaGlnArgPheProAsnSerLeuTyrAsp-245
326-ValTyrAlaGlySer-330
340-SerSerProLeuVal-344
369-ArgAsnAlaLysLysIle-374
422-ThrProAlaPheThrGlyPheSerGlyThrValProValTrpLysThrValLys-439
448-LeuTyrAsnTyrAlaLysTyrLeuAsnThrAsn-458
475-LeuHisLeuLeuGlyGlyLeuHisTyr-483
505-PheGlnThrAlaSerSer-510
543-IleTyrGlySerTyrThrLysIlePheLysGlnGlnAspAsn-556
616-GlySerPheGlnThrValAlaLysProIleGlyLysValValSerArg-631
643-GluAspTrpLysValPheAlaGly-650

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657-ArgTyrLysAsnAla-661
 670-AlaLysAsnThrGly-674
 677-ProTyrAsnPheSerAsnPheThrProValHisIle-688
 714-ThrSerSerLeuTyrAsnIle-720
 725-TyrGlyLeuIleAspGlyPheValArgTyr-734
 736-LeuGlyLysHisAlaLysLeu-742
 759-TyrAsnArgThrArgGlyAlaAsnAsnPheTyrGlyGluPro-772

Antigenic Index - Jameson-Wolf

6-AlaGluAlaAspAlaGlyAsp-12
 21-MetTyrGlnLysSerArgGluValProAspPheSerGly-33
 37-SerCysGlnAsnGlnLysThrAlaProPheSerSerThrProAlaCysAsnArgProLeuGlnLeuProArgAsnThrTyrLeuGlyGluAspTrpSerArgLeuSerAlaAspLysTyrAsn-77
 86-PheAspAsnGlyTrp-90
 97-SerTyrThrLysAsnGluSerAspAlaLysVal-107
 120-LeuSerAspGluAspAla-125
 130-ThrGluLysAsnGluValIleProPheGluProLysAspLysAlaLeuGluLysLeuLysAlaTyrArgAspGluThrAlaLysGluTyrArgGluArgLysAspAspPheValLysAsnArgPheAspAsnThrAla-175
 177-GluGlnTyrArgSerArgArgAlaAlaGluArgLysAlaGlyPheAspGluCysMet-195
 205-CysGlnGlySerTrpGlyAspProGlyValAspAlaAspLysSerGluPheValAsp-223
 235-AlaAlaGlnArgPheProAsnSerLeuTyrAspSerSerPheAsnArgLysAlaThrAlaAsnArgArgTyrSerTyrMetPro-262
 264-ArgHisThrLysAspAspArgGlnTrp-272
 286-GlyArgGluHisAsp-290
 295-TyrAlaTyrGlyAspGluLysIleArgSerGluTyr-306
 308-GluIleTyrGluArgArgHisArgValArgProAsnThrGlyAla-322
 331-CysGlnGlyGluProAspGlyAspLeuSer-340
 345-ArgGlyHisLysGluProAspTrpGlnAlaTyrAspGluLysGlyAsnArgThrValTyrAlaGluGluCysArgAsnAlaLysLysIleLysThrGluProLysLeuAspAlaGluGlyLysGln-386
 389-TyrTyrAspGluTyrSerGlySerArgThr-398
 405-TyrGluLeuAspGluLysGlyAsnLysIleGlnGluThrAsnProAspGlyThrPro-423
 439-LysValAlaAspAspHisVal-445
 454-TyrLeuAsnThrAspLysThrHis-461
 485-ArgTyrGluThrSerGlnThrLysAspMetProValArgTyrGlyGlnProAlaSerAspPheGlnThr-507
 509-SerSerIleLysAlaAspGlnAspHisTyrThr-519
 521-LysMetGlnGlyHisLysLeuThrPro-529
 545-GlySerTyrThrLys-549
 551-PheLysGlnGlnAspAsnValAspValSerAla-561
 584-GlyArgLeuAsnAla-588
 595-LeuGluGlnLysAsnArgThrValVal-603
 610-GlyAlaGlyGlyLysGlnGlySer-617
 628-ValValSerArgGlyAlaGluPheGluLeuSerGlyGluLeuAsnGluAspTrpLys-646
 652-ThrTyrAsnLysSerArgTyrLysAsnAlaAlaGluValAsnAlaGluArgLeuAlaLysAsnThrGlyAlaAspProTyrAsnPheSerAsn-682
 708-ValSerAlaGlnSerGlyThrSerSerLeuTyrAsnIleArgGlnGlyGly-724
 735-GluLeuGlyLysHisAlaLys-741
 746-GlyThrAsnLeuAsnGlyArgThrTyrPheGluAsnAsnTyrAsnArgThrArgGlyAlaAsnAsnPheTyrGlyGluProArgThrValSerMet-777

Hydrophilic Regions - Hopp-Woods

6-AlaGluAlaAspAlaGlyAsp-12
 23-GlnLysSerArgGluValProAsp-30
 67-AspTrpSerArgLeuSerAlaAspLys-75
 97-SerTyrThrLysAsnGluSerAspAlaLysVal-107

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120-LeuSerAspGluAspAla-125
 130-ThrGluLysAsnGluValIleProPheGluProLysAspLysAlaLeuGluLysLeuLysAlaTyrArgAsp
 GluThrAlaLysGluTyrArgGluArgLysAspAspPheValLysAsnArgPheAspAsnThrAla-175
 177-GluGlnTyrArgSerArgArgAlaAlaGluArgLysAlaGlyPheAspGluCysMet-195
 212-ProGlyValAspAlaAspLysSerGluPheValAsp-223
 247-SerPheAsnArgLysAlaThrAlaAsnArgArgTyrSer-259
 264-ArgHisThrLysAspAspArgGlnTrp-272
 286-GlyArgGluHisAsp-290
 297-TyrGlyAspGluLysIleArgSerGluTyr-306
 308-GluIleTyrGluArgArgHisArgValArgProAsnThr-320
 331-CysGlnGlyGluProAspGlyAspLeu-339
 345-ArgGlyHisLysGluProAsp-351
 354-AlaTyrAspGluLysGlyAsnArg-361
 363-ValTyrAlaGluGluCysArgAsnAlaLysLysIleLysThrGluProLysLeuAspAlaGluGlyLysGln
 -386
 393-TyrSerGlySerArg-397
 405-TyrGluLeuAspGluLysGlyAsnLysIleGlnGluThrAsnProAspGly-421
 439-LysValAlaAspAspHisVal-445
 485-ArgTyrGluThrSerGlnThrLysAspMetProVal-496
 500-GlnProAlaSerAsp-504
 509-SerSerIleLysAlaAspGlnAspHisTyrThr-519
 551-PheLysGlnGlnAspAsnValAspValSerAla-561
 597-GlnLysAsnArgThrValVal-603
 611-AlaGlyGlyLysGlnGlySer-617
 628-ValValSerArgGlyAlaGluPheGluLeuSerGlyGluLeuAsnGluAspTrpLys-646
 654-AsnLysSerArgTyrLysAsnAlaAlaGluValAsnAlaGluArgLeuAlaLys-671
 735-GluLeuGlyLysHisAlaLys-741
 758-AsnTyrAsnArgThrArgGly-764
 770-GlyGluProArgThrValSerMet-777

a743**AMPHI Regions - AMPHI**

19-TyrGlyGlySerPhe-23
 58-SerTyrThrIleAsp-62
 64-MetSerThrAlaThrGly-69
 96-ThrLeuGluGluAlaMetLysAsnThrThrGlyValAsnValValArgAsp-112
 158-ValTyrAspHisIleGluValValArgGlyAlaThrGly-170

Antigenic Index - Jameson-Wolf

1-MetAsnGlnAsnHis-5
 30-ValSerAspGlyAsnThrVal-36
 41-ValAsnValArgGlySerHisAlaLeuSerGlyLysThrGluLysThrArgSerTyrThrIleAspArgMetS
 erThr-66
 72-IleAlaGlyLysAspThrProGlnSer-80
 85-ThrArgSerArgLeuAspAspLysAlaValHisThrLeuGluGluAlaMetLysAsnThrThrGly-106
 109-ValValArgAspSerGlyLeuGlnThrArgPheLeuSerArgGlyPhe-124
 128-GlnIleGlyGluAspGlyIle-134
 140-GlyArgSerGlyTyrThrAlaLysIleAspValSerProSerThrAsp-155
 163-GluValValArgGlyAlaThrGlyLeuThrGlnSerAsnSerGluProGlyGly-180
 184-LeuIleArgLysArg-188

Hydrophilic Regions - Hopp-Woods

49-LeuSerGlyLysThrGluLysThrArgSerTyrThrIleAspArgMetSerThr-66
 72-IleAlaGlyLysAspThrProGln-79
 85-ThrArgSerArgLeuAspAspLysAlaValHisThrLeuGluGluAlaMetLysAsn-103
 109-ValValArgAspSerGlyLeu-115

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128-GlnIleGlyGluAspGlyIle-134
 174-SerAsnSerGluProGlyGly-180
 184-LeuIleArgLysArg-188

a746**AMPHI Regions - AMPHI**

10-LeuSerGlyTyrGluGlnLeuLys-17
 42-LeuSerSerGlyProAlaGluGlnThrAla-51
 72-SerAlaAlaAspLysProGlnAsp-79
 94-SerGluProGluAsn-98
 118-LeuGluAlaSerGluLysLeuGlnGlnAlaGluThrAlaLysThrAlaPro-134
 153-AspThrValAlaValGlu-158
 160-ProLysArgThrAlaGluThr-166
 170-LysAlaGluArgThr-174
 184-ThrLysThrAlaGluLysValAlaAspLysProLys-195
 210-SerAlaValLysGluAlaLysLysAlaAspLysAlaGluSer-223
 238-GluThrAlaGlnLysThrAspLysAlaAspLysThrLysThrAlaGluLys-254
 287-SerThrIleThrGluIleMetThr-294
 307-TyrLysAsnAlaArgAspAlaGluArgAspLeu-317

Antigenic Index - Jameson-Wolf

1-MetSerGluAsnLysGlnAsnGluValLeuSerGlyTyrGluGlnLeuLysArgArgAsnArgArgArgLeuValThr-26
 43-SerSerGlyProAlaGluGlnThrAlaGlyGluThrSerGlyValGluAsnLysAlaAlaGly-63
 72-SerAlaAlaAspLysProGlnAspLeuAlaGlyGluAspLysProSerAlaAlaAspSerGluIleSerGluProGluAsnVal-99
 107-AsnAspArgLeuGluAspSerAsnIleLysGlyLeuGluAlaSerGluLysLeuGlnGlnAlaGluThrAlaLysThrAlaProLysGlnAlaLysGlnArgAlaAlaGluLysValProAlaThrAlaAspSerThrAspThrValAlaValGluLysProLysArgThrAlaGluThrLysProGlnLysAlaGluArgThrAlaLysAlaLysProLysAlaLysGluThrLysThrAlaGluLysValAlaAspLysProLysThrAlaAlaGluLysThrLysProAspThrAlaLysSerAspSerAlaValLysGluAlaLysLysAlaAspLysAlaGluSerLysLysThrAlaGluLysAspArgSerAspGlyLysLysHisGluThrAlaGlnLysThrAspLysAlaAspLysThrLysThrAlaGluLysGluLysSerGlyLysLysAlaAla-262
 266-GlyTyrAlaGluLysGluArgAlaLeuSerLeuGlnArgLysMetLysAlaAlaGlyIle-285
 292-IleMetThrAspAsnGlyLysValTyrArgValLysSerSerAsnTyrLysAsnAlaArgAspAlaGluArgAspLeuAsnLysLeuArgVal-322

Hydrophilic Regions - Hopp-Woods

1-MetSerGluAsnLysGlnAsnGluVal-9
 14-GluGlnLeuLysArgArgAsnArgArgArgLeuVal-25
 45-GlyProAlaGluGlnThrAlaGlyGluThrSerGlyValGluAsnLysAlaAlaGly-63
 72-SerAlaAlaAspLysProGlnAspLeuAlaGlyGluAspLysProSerAlaAlaAspSerGluIleSerGluProGluAsnVal-99
 108-AspArgLeuGluAspSerAsnIleLysGlyLeuGluAlaSerGluLysLeuGlnGlnAlaGluThrAlaLysThrAlaProLysGlnAlaLysGlnArgAlaAlaGluLysValProAlaThrAlaAspSerThrAsp-153
 155-ValAlaValGluLysProLysArgThrAlaGluThrLysProGlnLysAlaGluArgThrAlaLysAlaLysProLysAlaLysGluThrLysThrAlaGluLysValAlaAspLysProLysThrAlaAlaGluLysThrLysProAspThrAlaLysSerAspSerAlaValLysGluAlaLysLysAlaAspLysAlaGluSerLysLysThrAlaGluLysAspArgSerAspGlyLysLysHisGluThrAlaGlnLysThrAspLysAlaAspLysThrLysThrAlaGluLysGluLysSerGlyLysLysAlaAla-262
 267-TyrAlaGluLysGluArgAlaLeuSerLeuGlnArgLysMetLysAlaAlaGlyIle-285
 292-IleMetThrAspAsnGlyLysValTyrArgValLysSerSerAsnTyrLysAsnAlaArgAspAlaGluArgAspLeuAsnLysLeuArgVal-322

a747**AMPHI Regions - AMPHI**

28-ValSerLysSerAlaLysGlyTrp-35

Antigenic Index - Jameson-Wolf

8-TyrAlaAspLeuArgGlyLysThrLysVal-17
 23-CysAlaSerArgAspValSerLysSerAlaLysGlyTrp-35
 42-AsnValGlyLysGlnLeuThrAspSerValGlyLeuGluPheAspProTyrTyrArgHisLysThrIleCysLysProArgGluIleValLeuAspGlyAspLysThrLysMetGlyArgSerLysSerAsnGluTyrGly-88
 97-SerGlnLeuLysSerLys-102

Hydrophilic Regions - Hopp-Woods

8-TyrAlaAspLeuArgGlyLysThrLysVal-17
 23-CysAlaSerArgAspValSerLysSerAlaLys-33
 63-ThrIleCysLysProArgGluIleValLeuAspGlyAspLysThrLysMetGlyArgSerLysSerAsnGluTyr-87

a748

AMPHI Regions - AMPHI

22-GlyAlaValGlyAlaIleGlyGly-29
 40-AlaGluArgThrAlaGluSerGlnHis-48
 82-SerAlaLysGlnLeuGluAsnLeuPheArgThrLeu-93
 155-LeuGlnGluMetArgAspPheSerAsnAspLysLeuGlnLysSerTrp-170
 188-GlnAlaAlaLeuArgAspIleIleLysHisThrValGln-200
 250-GlyValAlaAlaAsnSer-255
 257-AspGluProGluTrp-261
 268-GlnAlaValArgLeuIleArgHisPheValGluPheTrpAspArg-282
 310-GlnProAspPheAlaLys-315
 334-ArgAspProGluPheLeu-339
 390-LeuGluGluTyrIleSerProPhe-397

Antigenic Index - Jameson-Wolf

1-MetSerLysAsnGlnProAlaGlnProThrArgArgThrLeuPhe-15
 29-GlyTyrLeuGlyGlyLysLysArgGlyGluThrAlaGluArgThrAlaGluSerGlnHisSerProGlnAla-52
 80-AlaGlnSerAlaLysGlnLeuGluAsn-88
 101-ThrGlnGlyGlyGluTyrGlnAspGlyAspAspLysLeuProProAlaGlySerGly-119
 125-PheAsnProAspGlyLeuThr-131
 139-SerLeuPheAspGlyArgPheGlyLeuLysAspLysLysProIleHis-154
 156-GlnGluMetArgAspPheSerAsnAspLysLeuGlnLysSerTrpCysAspGlyAspLeuSer-176
 183-ThrProGluThrCys-187
 208-IleAspGlyTrpGlnProLysSerGluProGlyAlaMetAla-221
 226-LeuGlyPheArgAspGlyThrGlyAsnProLysValSerAspProLysThrAlaAspGlu-245
 255-SerLeuAspGluProGluTrpAlaLysAsnGlySerTyrGlnAla-269
 279-PheTrpAspArgThrProLeuGlnGluGlnThrAspIlePheGlyArgArgLysTyrSerGlyAlaProMetAspGlyLysLysGluAlaAspGlnProAspPheAlaLysAspProGluGlyAsnThrThrProLysAspSerHisIleArgLeuAlaAsnProArgAspProGluPheLeuLysLysHisArgLeuPheArg-346
 348-AlaTyrSerTyrSerArgGlyLeuAlaSerSerGlyGlnLeu-361
 385-LeuAsnGlyGluProLeuGluGluTyr-393
 406-ProGlyValGluLysGlyGlyPhe-413

Hydrophilic Regions - Hopp-Woods

1-MetSerLysAsnGlnPro-6
 8-GlnProThrArgArgThrLeuPhe-15
 32-GlyGlyLysLysArgGlyGluThrAlaGluArgThrAlaGluSerGlnHis-48
 80-AlaGlnSerAlaLysGlnLeuGluAsn-88
 104-GlyGluTyrGlnAspGlyAspAspLysLeuProPro-115
 145-PheGlyLeuLysAspLysLysProIleHis-154
 156-GlnGluMetArgAspPheSerAsnAspLysLeuGlnLysSerTrpCysAspGlyAspLeu-175

-610-

211-TrpGlnProLysSerGluProGlyAlaMetAla-221
 229-ArgAspGlyThrGlyAsnProLysValSerAspProLysThrAlaAsp-244
 255-SerLeuAspGluProGluTrpAlaLys-263
 283-ThrProLeuGlnGluGlnThrAspIlePheGlyArgArgLysTyrSer-298
 301-ProMetAspGlyLysLysGluAlaAspGlnProAspPheAlaLysAspProGluGlyAsnThrThrProLys
 AspSerHisIle-328
 331-AlaAsnProArgAspProGluPheLeuLysLysHisArgLeuPheArg-346
 388-GluProLeuGluGluTyr-393
 407-GlyValGluLysGlyGly-412

a749

AMPHI Regions - AMPHI

1-MetArgLysPheAsnLeuThrAlaLeuSerValMetLeuAlaLeuGlyLeuThrAlaCysGlnProProGluAla
 aGluLysAlaAlaProAlaAlaSerGlyGluAlaGlnThrAlaAsnGluGlyGlySerValSerIleAlaValAsn
 AspAsnAlaCysGluProMetGluLeuThrValProSerGlyGlnValValPheAsnIleLysAsnAsnSerGlyA
 rgLysLeuGluTrpGluIleLeuLysGlyValMetValValAspGluArgGluAsnIleAlaProGlyLeuSerAs
 pLysMetThrValThrLeuLeuProGlyGluTyrGluMetThrCysGlyLeuLeuThrAsnProArgGlyLysLeu
 ValValThrAspSerGlyPheLysAspThrAlaAsnGluAlaAspLeuGluLysLeuSerGlnProLeuAlaAspT
 yrLysAlaTyrValGlnGlyGluValLysGluLeuValAlaLysThrLysThrPheThrGluAlaValLysAlaGl
 yAspIleGluLysAlaLysSerLeuPheAlaAspThrArgValHisTyrGluArgIleGluProIleAlaGluLeu
 PheSerGluLeuAspProValIleAspAlaArgGluAspAspPheLysAspGlyAlaLysAspAlaGlyPheThrG
 lyPheHisArgIleGluTyrAlaLeuTrpValGluLysAspValSerGlyValLysGluIleAlaAlaLysLeuMe
 tThrAspValGluAlaLeuGlnLysGluIleAspAlaLeuAlaPheProProGlyLysValValGlyGlyAlaSer
 GluLeuIleGluValAlaGlySerLysIleSerGlyGluGluAspArgTyrSerHisThrAspGlyLeuSerAsp
 heGlnAlaAsnValAspGlySerLysLysIleValAspLeuPheArgProLeuIleGluThrLysAsnLysAlaLe
 uLeuGluLysThrAspThrAsnPheLysGlnValAsnGluIleLeuAlaLysTyrArgThrLysAspGlyPheGlu
 ThrTyrAspLysLeuGlyGluAlaAspArgLysAlaLeuGlnAlaSerIleAsnAlaLeuAlaGluAspLeuAlaG
 lnLeuArgGlyIleLeuGlyLeuLys-388

Antigenic Index - Jameson-Wolf

1-MetArgLysPheAsnLeuThrAlaLeuSerValMetLeuAlaLeuGlyLeuThrAlaCysGlnProProGluAla
 aGluLysAlaAlaProAlaAlaSerGlyGluAlaGlnThrAlaAsnGluGlyGlySerValSerIleAlaValAsn
 AspAsnAlaCysGluProMetGluLeuThrValProSerGlyGlnValValPheAsnIleLysAsnAsnSerGlyA
 rgLysLeuGluTrpGluIleLeuLysGlyValMetValValAspGluArgGluAsnIleAlaProGlyLeuSerAs
 pLysMetThrValThrLeuLeuProGlyGluTyrGluMetThrCysGlyLeuLeuThrAsnProArgGlyLysLeu
 ValValThrAspSerGlyPheLysAspThrAlaAsnGluAlaAspLeuGluLysLeuSerGlnProLeuAlaAspT
 yrLysAlaTyrValGlnGlyGluValLysGluLeuValAlaLysThrLysThrPheThrGluAlaValLysAlaGl
 yAspIleGluLysAlaLysSerLeuPheAlaAspThrArgValHisTyrGluArgIleGluProIleAlaGluLeu
 PheSerGluLeuAspProValIleAspAlaArgGluAspAspPheLysAspGlyAlaLysAspAlaGlyPheThrG
 lyPheHisArgIleGluTyrAlaLeuTrpValGluLysAspValSerGlyValLysGluIleAlaAlaLysLeuMe
 tThrAspValGluAlaLeuGlnLysGluIleAspAlaLeuAlaPheProProGlyLysValValGlyGlyAlaSer
 GluLeuIleGluGluValAlaGlySerLysIleSerGlyGluGluAspArgTyrSerHisThrAspLeuSerAsp
 heGlnAlaAsnValAspGlySerLysLysIleValAspLeuPheArgProLeuIleGluThrLysAsnLysAlaLe
 uLeuGluLysThrAspThrAsnPheLysGlnValAsnGluIleLeuAlaLysTyrArgThrLysAspGlyPheGlu
 ThrTyrAspLysLeuGlyGluAlaAspArgLysAlaLeuGlnAlaSerIleAsnAlaLeuAlaGluAspLeuAlaG
 lnLeuArgGlyIleLeuGlyLeuLys-388

Hydrophilic Regions - Hopp-Woods

1-MetArgLysPheAsnLeuThrAlaLeuSerValMetLeuAlaLeuGlyLeuThrAlaCysGlnProProGluAla
 aGluLysAlaAlaProAlaAlaSerGlyGluAlaGlnThrAlaAsnGluGlyGlySerValSerIleAlaValAsn
 AspAsnAlaCysGluProMetGluLeuThrValProSerGlyGlnValValPheAsnIleLysAsnAsnSerGlyA
 rgLysLeuGluTrpGluIleLeuLysGlyValMetValValAspGluArgGluAsnIleAlaProGlyLeuSerAs
 pLysMetThrValThrLeuLeuProGlyGluTyrGluMetThrCysGlyLeuLeuThrAsnProArgGlyLysLeu
 ValValThrAspSerGlyPheLysAspThrAlaAsnGluAlaAspLeuGluLysLeuSerGlnProLeuAlaAspT
 yrLysAlaTyrValGlnGlyGluValLysGluLeuValAlaLysThrLysThrPheThrGluAlaValLysAlaGl
 yAspIleGluLysAlaLysSerLeuPheAlaAspThrArgValHisTyrGluArgIleGluProIleAlaGluLeu

PheSerGluLeuAspProValIleAspAlaArgGluAspAspPheLysAspGlyAlaLysAspAlaGlyPheThrGlyPheHisArgIleGluTyrAlaLeuTrpValGluLysAspValSerGlyValLysGluIleAlaAlaLysLeuMetHisArgValGluAlaLeuGlnLysGluIleAspAlaLeuAlaPheProProGlyLysValValGlyGlyAlaSerGluLeuIleGluGluValAlaAlaGlySerLysIleSerGlyGluGluAspArgTyrSerHisThrLysAspLeuSerAspPheGlnAlaAsnValAspGlySerLysLysIleValAspLeuPheArgProLeuIleGluThrLysAsnLysAlaLeuLeuGluLysThrAspThrAsnPheLysGlnValAsnGluIleLeuAlaLysTyrArgThrLysAspGlyPheGluThrTyrAspLysLeuGlyGluAlaAspArgLysAlaLeuGlnAlaSerIleAsnAlaLeuAlaGluAspLeuAlaGlnLeuArgGlyIleLeuGluLysLys-388

a750

AMPHI Regions - AMPHI

1-ValLysProArgPheTyrTrpAlaAlaCysAlaValLeuLeuThrAlaCysSerProGluProAlaAlaGluLysThrValSerAlaAlaSerAlaSerAlaAlaThrLeuThrValProThrAlaArgGlyAspAlaValValProLysAsnProGluArgValAlaValTyrAspTrpAlaAlaLeuAspThrLeuThrGluLeuGlyValAsnValGlyAlaThrThrAlaProValArgValAspTyrLeuGlnProAlaPheAspLysAlaAlaThrValGlyThrLeuPheGluProAspTyrGluAlaLeuHisArgTyrAsnProGlnLeuValIleThrGlyGlyProGlyAlaGluAlaTyrGluGlnLeuAlaLysAsnAlaThrThrIleAspLeuThrValAspAsnGlyAsnIleArgThrSerGlyGluLysGlnMetGluThrLeuAlaArgIlePheGlyLysGluAlaArgAlaAlaGluLeuLysAlaGlnIleAspAlaLeuPheAlaGlnThrArgGluAlaAlaLysGlyLysGlyArgGlyLeuValLeuSerValThrGlyAsnLysValSerAlaPheGlyThrGlnSerArgLeuAlaSerTrpIleHisGlyAspIleGlyLeuProProValAspGluSerLeuArgAsnGluGlyHisGlyGlnProValSerPheGluTyrIleLysGluLysAsnProAspTrpIlePheIleIleAspArgThrAlaAlaIleGlyGlnGluGlyProAlaAlaValGluValLeuAspAsnAlaLeuValArgGlyThrAsnAlaTrpLysArgLysGlnIleIleValMetProAlaAlaAsnTyrIleValAlaGlyGlySerArgGlnLeuIleGlnAlaAlaGluGlnLeuLysGluAlaPheGluLysAlaGluProValAlaAlaGlyLysGlu-321

Antigenic Index - Jameson-Wolf

1-ValLysProArgPheTyrTrpAlaAlaCysAlaValLeuLeuThrAlaCysSerProGluProAlaAlaGluLysThrValSerAlaAlaSerAlaSerAlaAlaThrLeuThrValProThrAlaArgGlyAspAlaValValProLysAsnProGluArgValAlaValTyrAspTrpAlaAlaLeuAspThrLeuThrGluLeuGlyValAsnValGlyAlaThrThrAlaProValArgValAspTyrLeuGlnProAlaPheAspLysAlaAlaThrValGlyThrLeuPheGluProAspTyrGluAlaLeuHisArgTyrAsnProGlnLeuValIleThrGlyGlyProGlyAlaGluAlaTyrGluGlnLeuAlaLysAsnAlaThrThrIleAspLeuThrValAspAsnGlyAsnIleArgThrSerGlyGluLysGlnMetGluThrLeuAlaArgIlePheGlyLysGluAlaArgAlaAlaGluLeuLysAlaGlnIleAspAlaLeuPheAlaGlnThrArgGluAlaAlaLysGlyLysGlyArgGlyLeuValLeuSerValThrGlyAsnLysValSerAlaPheGlyThrGlnSerArgLeuAlaSerTrpIleHisGlyAspIleGlyLeuProProValAspGluSerLeuArgAsnGluGlyHisGlyGlnProValSerPheGluTyrIleLysGluLysAsnProAspTrpIlePheIleIleAspArgThrAlaAlaIleGlyGlnGluGlyProAlaAlaValGluValLeuAspAsnAlaLeuValArgGlyThrAsnAlaTrpLysArgLysGlnIleIleValMetProAlaAlaAsnTyrIleValAlaGlyGlySerArgGlnLeuIleGlnAlaAlaGluGlnLeuLysGluAlaPheGluLysAlaGluProValAlaAlaGlyLysGlu-321

Hydrophilic Regions - Hopp-Woods

1-ValLysProArgPheTyrTrpAlaAlaCysAlaValLeuLeuThrAlaCysSerProGluProAlaAlaGluLysThrValSerAlaAlaSerAlaSerAlaAlaThrLeuThrValProThrAlaArgGlyAspAlaValValProLysAsnProGluArgValAlaValTyrAspTrpAlaAlaLeuAspThrLeuThrGluLeuGlyValAsnValGlyAlaThrThrAlaProValArgValAspTyrLeuGlnProAlaPheAspLysAlaAlaThrValGlyThrLeuPheGluProAspTyrGluAlaLeuHisArgTyrAsnProGlnLeuValIleThrGlyGlyProGlyAlaGluAlaTyrGluGlnLeuAlaLysAsnAlaThrThrIleAspLeuThrValAspAsnGlyAsnIleArgThrSerGlyGluLysGlnMetGluThrLeuAlaArgIlePheGlyLysGluAlaArgAlaAlaGluLeuLysAlaGlnIleAspAlaLeuPheAlaGlnThrArgGluAlaAlaLysGlyLysGlyArgGlyLeuValLeuSerValThrGlyAsnLysValSerAlaPheGlyThrGlnSerArgLeuAlaSerTrpIleHisGlyAspIleGlyLeuProProValAspGluSerLeuArgAsnGluGlyHisGlyGlnProValSerPheGluTyrIleLysGluLysAsnProAspTrpIlePheIleIleAspArgThrAlaAlaIleGlyGlnGluGlyProAlaAlaValGluValLeuAspAsnAlaLeuValArgGlyThrAsnAlaTrpLysArgLysGlnIleIleValMetProAlaAlaAsnTyrIleValAlaGlyGlySerArgGlnLeuIleGlnAlaAlaGluGlnLeuLysGluAlaPheGluLysAlaGluProValAlaAlaGlyLysGlu-321

a756

AMPHI Regions - AMPHI

1-MetThrAlaAsnPheAlaGlnThrLeuValGluIleGlnAspSerLeuXxxArgValValSerThrValGlnTy
rGlyAspAspAsnLeuLysArgLeuThrAlaAspLysArgLysGlnTyrGluLeuAsnPheLysIleSerGluGly
SerThrArgValGluSerAspPheLysGluThrLeuValArgPheGlyArgAspMetLeuGlnAspMetProProL
ysIleArgSerAlaThrLeuValAlaLeuThrThrLeuLeuValGlyGlyAlaLeuGlyTyrGlyTyrLeuGluTy
rLeuLysGlnValAlaSerGluGlyTyrGlnThrGluArgLeuTyrAsnAlaValAspArgLeuAlaGluSerGln
GluArgIleThrSerAlaIleLeuLysGlyAlaArgGlyAlaAspPheValGlnIleGlyArgArgSerTyrSerA
rgGluAspIleSerGluAlaAsnArgArgAlaGluArgValProTyrGlyAlaGluLeuValSerAspGlyAsnPh
eThrAlaValLeuSerAspIleGlyAsp-186

Antigenic Index - Jameson-Wolf

1-MetThrAlaAsnPheAlaGlnThrLeuValGluIleGlnAspSerLeuXxxArgValValSerThrValGlnTy
rGlyAspAspAsnLeuLysArgLeuThrAlaAspLysArgLysGlnTyrGluLeuAsnPheLysIleSerGluGly
SerThrArgValGluSerAspPheLysGluThrLeuValArgPheGlyArgAspMetLeuGlnAspMetProProL
ysIleArgSerAlaThrLeuValAlaLeuThrThrLeuLeuValGlyGlyAlaLeuGlyTyrGlyTyrLeuGluTy
rLeuLysGlnValAlaSerGluGlyTyrGlnThrGluArgLeuTyrAsnAlaValAspArgLeuAlaGluSerGln
GluArgIleThrSerAlaIleLeuLysGlyAlaArgGlyAlaAspPheValGlnIleGlyArgArgSerTyrSerA
rgGluAspIleSerGluAlaAsnArgArgAlaGluArgValProTyrGlyAlaGluLeuValSerAspGlyAsnPh
eThrAlaValLeuSerAspIleGlyAsp-186

Hydrophilic Regions - Hopp-Woods

1-MetThrAlaAsnPheAlaGlnThrLeuValGluIleGlnAspSerLeuXxxArgValValSerThrValGlnTy
rGlyAspAspAsnLeuLysArgLeuThrAlaAspLysArgLysGlnTyrGluLeuAsnPheLysIleSerGluGly
SerThrArgValGluSerAspPheLysGluThrLeuValArgPheGlyArgAspMetLeuGlnAspMetProProL
ysIleArgSerAlaThrLeuValAlaLeuThrThrLeuLeuValGlyGlyAlaLeuGlyTyrGlyTyrLeuGluTy
rLeuLysGlnValAlaSerGluGlyTyrGlnThrGluArgLeuTyrAsnAlaValAspArgLeuAlaGluSerGln
GluArgIleThrSerAlaIleLeuLysGlyAlaArgGlyAlaAspPheValGlnIleGlyArgArgSerTyrSerA
rgGluAspIleSerGluAlaAsnArgArgAlaGluArgValProTyrGlyAlaGluLeuValSerAspGlyAsnPh
eThrAlaValLeuSerAspIleGlyAsp-186

a758

AMPHI Regions - AMPHI

1-MetAsnAsnLeuThrValPheThrArgPheAspThrAspLeuAlaThrLeuAlaAspGluLeuGlnTyrValTr
pGluHisThrAlaValThrAspHisGlnGlyLysLeuValGluIleProValCysTyrGlyGlyGluTyrGlyPro
AspLeuAlaGluValAlaAlaPheHisGlnThrValIleSerGluIleValArgArgHisThrAlaGlnThrTyrT
hrValPheMetMetGlyPheGlnProGlyPheProTyrLeuGlyGlyLeuProGluAlaLeuHisThrProArgAr
gAlaValProArgThrSerValProAlaGlySerValGlyIleGlyGlySerGlnThrGlyValTyrProPheAla
SerProGlyGlyTrpGlnIleIleGlyArgThrGluLeuProLeuPheArgAlaAspLeuAsnProProThrLeuL
euAlaAlaGlyAspGlnValArgPheValAlaGluArgIleGluPro-167

Antigenic Index - Jameson-Wolf

1-MetAsnAsnLeuThrValPheThrArgPheAspThrAspLeuAlaThrLeuAlaAspGluLeuGlnTyrValTr
pGluHisThrAlaValThrAspHisGlnGlyLysLeuValGluIleProValCysTyrGlyGlyGluTyrGlyPro
AspLeuAlaGluValAlaAlaPheHisGlnThrValIleSerGluIleValArgArgHisThrAlaGlnThrTyrT
hrValPheMetMetGlyPheGlnProGlyPheProTyrLeuGlyGlyLeuProGluAlaLeuHisThrProArgAr
gAlaValProArgThrSerValProAlaGlySerValGlyIleGlyGlySerGlnThrGlyValTyrProPheAla
SerProGlyGlyTrpGlnIleIleGlyArgThrGluLeuProLeuPheArgAlaAspLeuAsnProProThrLeuL
euAlaAlaGlyAspGlnValArgPheValAlaGluArgIleGluPro-167

Hydrophilic Regions - Hopp-Woods

1-MetAsnAsnLeuThrValPheThrArgPheAspThrAspLeuAlaThrLeuAlaAspGluLeuGlnTyrValTr
pGluHisThrAlaValThrAspHisGlnGlyLysLeuValGluIleProValCysTyrGlyGlyGluTyrGlyPro
AspLeuAlaGluValAlaAlaPheHisGlnThrValIleSerGluIleValArgArgHisThrAlaGlnThrTyrT
hrValPheMetMetGlyPheGlnProGlyPheProTyrLeuGlyGlyLeuProGluAlaLeuHisThrProArgAr
gAlaValProArgThrSerValProAlaGlySerValGlyIleGlyGlySerGlnThrGlyValTyrProPheAla
SerProGlyGlyTrpGlnIleIleGlyArgThrGluLeuProLeuPheArgAlaAspLeuAsnProProThrLeuL
euAlaAlaGlyAspGlnValArgPheValAlaGluArgIleGluPro-167

a761

AMPHI Regions - AMPHI

1-MetLysIleSerPheHisLeuAlaLeuLeuProThrLeuIleIleAlaSerPheProValAlaAlaAlaAspThrGlnAspAsnGlyGluHisTyrThrAlaThrLeuProThrValSerValValGlyGlnSerAspThrSerValLeuLysGlyTyrIleAsnTyrAspGluAlaAlaValThrArgAsnGlyGlnLeuIleLysGluThrProGlnThrIleAspThrLeuAsnIleGlnLysAsnLysAsnTyrGlyThrAsnAspLeuSerSerIleLeuGluGlyAsnAlaGlyIleAspAlaAlaTyrAspMetArgGlyGluSerIlePheLeuArgGlyPheGlnAlaAspAlaSerAspIleTyrArgAspGlyValArgGluSerGlyGlnValArgArgSerThrAlaAsnIleGluArgValGluIleLeuLysGlyProSerSerValLeuTyrGlyArgThrAsnGlyGlyGlyValIleAsnMetValSerLysTyrAlaAsnPheLysGlnSerArgAsnIleGlyThrValTyrGlySerTrpAlaAsnArgSerLeuAsnMetAspIleAsnGluValLeuAsnLysAsnValAlaIleArgLeuThrGlyGluValGlyArgAlaAsnSerPheArgSerGlyIleAspSerLysAsnValMetValSerProSerIleThrValLysLeuAspAsnGlyLeuLysTrpThrGlyGlnTyrThrTyrAspAsnValGluArgThrProAspArgSerProThrLysSerValTyrAspArgPheGlyLeuProTyrArgMetGlyPheAlaHisArgAsnAspPheValLysAspLysLeuGlnValTrpArgSerAspLeuGluTyrAlaPheAsnAspLysTrpArgAlaGlnTrpGlnLeuAlaHisArgThrAlaAlaGlnAspPheAspHisPheTyrAlaGlySerGluAsnGlyAsnLeuIleLysArgAsnTyrAlaTrpGlnGlnThrAspAsnLysThrLeuSerSerAsnLeuThrLeuAsnGlyAspTyrThrIleGlyArgPheGluAsnHisLeuThrValGlyMetAspTyrSerArgGluHisArgAsnProThrLeuGlyPheSerAlaPheSerAlaSerIleAsnProTyrAspArgAlaSerTrpProAlaSerGlyArgLeuGlnProIleLeuThrGlnAsnArgHisLysAlaAspSerTyrGlyIlePheValGlnAsnIlePheSerAlaThrProAspLeuLysPheValLeuGlyGlyArgTyrAspLysTyrThrPheAsnSerGluAsnLysLeuThrGlySerSerArgGlnTyrSerGlyHisSerPheSerProAsnIleGlyAlaValTrpAsnIleAsnProAlaHisThrLeuTyrAlaSerTyrAsnLysGlyPheAlaProTyrGlyGlyArgGlyGlyTyrLeuSerIleAspThrLeuSerSerAlaValPheAsnAlaAspProGluTyrThrArgGlnTyrGluThrGlyValLysSerSerTrpLeuAspAspArgLeuSerThrThrLeuSerAlaTyrGlnIleGluArgPheAsnIleArgTyrArgProAspProLysAsnAsnProTyrIleTyrAlaValSerGlyLysHisArgSerArgGlyValGluLeuSerAlaIleGlyGlnIleIleProLysLysLeuTyrLeuArgGlySerLeuGlyValMetGlnAlaLysValValGluAspLysGluAsnProAspArgValGlyIleHisLeuAsnAsnThrSerAsnValThrGlyAsnLeuPhePheArgTyrThrProThrGluAsnLeuTyrGlyGluIleGlyValThrGlyThrGlyLysArgTyrGlyTyrAspSerArgAsnLysGluValThrThrLeuProGlyPheAlaArgValAspAlaMetLeuGlyTrpAsnHisLysAsnValAsnValThrPheAlaAlaAlaAsnLeuPheAsnGlnLysTyrTrpArgSerAspSerMetProGlyAsnProArgGlyTyrThrAlaArgValAsnTyrArgPhe-703

Antigenic Index - Jameson-Wolf

1-MetLysIleSerPheHisLeuAlaLeuLeuProThrLeuIleIleAlaSerPheProValAlaAlaAlaAspThrGlnAspAsnGlyGluHisTyrThrAlaThrLeuProThrValSerValValGlyGlnSerAspThrSerValLeuLysGlyTyrIleAsnTyrAspGluAlaAlaValThrArgAsnGlyGlnLeuIleLysGluThrProGlnThrIleAspThrLeuAsnIleGlnLysAsnLysAsnTyrGlyThrAsnAspLeuSerSerIleLeuGluGlyAsnAlaGlyIleAspAlaAlaTyrAspMetArgGlyGluSerIlePheLeuArgGlyPheGlnAlaAspAlaSerAspIleTyrArgAspGlyValArgGluSerGlyGlnValArgArgSerThrAlaAsnIleGluArgValGluIleLeuLysGlyProSerSerValLeuTyrGlyArgThrAsnGlyGlyGlyValIleAsnMetValSerLysTyrAlaAsnPheLysGlnSerArgAsnIleGlyThrValTyrGlySerTrpAlaAsnArgSerLeuAsnMetAspIleAsnGluValLeuAsnLysAsnValAlaIleArgLeuThrGlyGluValGlyArgAlaAsnSerPheArgSerGlyIleAspSerLysAsnValMetValSerProSerIleThrValLysLeuAspAsnGlyLeuLysTrpThrGlyGlnTyrThrTyrAspAsnValGluArgThrProAspArgSerProThrLysSerValTyrAspArgPheGlyLeuProTyrArgMetGlyPheAlaHisArgAsnAspPheValLysAspLysLeuGlnValTrpArgSerAspLeuGluTyrAlaPheAsnAspLysTrpArgAlaGlnTrpGlnLeuAlaHisArgThrAlaAlaGlnAspPheAspHisPheTyrAlaGlySerGluAsnGlyAsnLeuIleLysArgAsnTyrAlaTrpGlnGlnThrAspAsnLysThrLeuSerSerGlyIleAspSerLysLeuAsnGlyAspTyrThrIleGlyArgPheGluAsnHisLeuThrValGlyMetAspTyrSerArgGluHisArgAsnProThrLeuGlyPheSerSerAlaPheSerAlaSerIleAsnProTyrAspArgAlaSerTrpProAlaSerGlyArgLeuGlnProIleLeuThrGlnAsnArgHisLysAlaAspSerTyrGlyIlePheValGlnAsnIlePheSerAlaThrProAspLeuLysPheValLeuGlyGlyArgTyrAspLysTyrThrPheAsnSerGluAsnLysLeuThrGlySerSerArgGlnTyrSerGlyHisSerPheSerProAsnIleGlyAlaValTrpAsnIleAsnProAlaHisThrLeuTyrAlaSerTyrAsnLysGlyPheAlaProTyrGlyGlyArgGlyGlyTyrLeuSerIleAspThrLeuSerSerAlaValPheAsnAlaAspProGluTyrThrArgGlnTyrGluThrGlyValLysSerSerTrpLeuAspAspArgLeuSerThrThrLeuSerAlaTyrGlnIleGluArgPheAsnIleArgTyrArgProAspProLysAsnAsnProTyrIleTyrAlaValSerGlyLysHisArgSerArgGlyValGluLeuSerAlaIleGlyGlnIleIleProLysLysLeuTyrLeuArg

GlySerLeuGlyValMetGlnAlaLysValValGluAspLysGluAsnProAspArgValGlyIleHisLeuAsnAsnThrSerAsnValThrGlyAsnLeuPhePheArgTyrThrProThrGluAsnLeuTyrGlyGluIleGlyValThrGlyThrGlyLysArgTyrGlyTyrAspSerArgAsnLysGluValThrThrLeuProGlyPheAlaArgValAspAlaMetLeuGlyTrpAsnHisLysAsnValAsnValThrPheAlaAlaAlaAsnLeuPheAsnGlnLysTyrTrpArgSerAspSerMetProGlyAsnProArgGlyTyrThrAlaArgValAsnTyrArgPhe-703

Hydrophilic Regions - Hopp-Woods

1-MetLysIleSerPheHisLeuAlaLeuLeuProThrLeuIleIleAlaSerPheProValAlaAlaAlaAspThrglnAspAsnGlyGluHisTyrThrAlaThrLeuProThrValSerValValGlyGlnSerAspThrSerValLeuLysGlyTyrIleAsnTyrAspGluAlaAlaValThrArgAsnGlyGlnLeuIleLysGluThrProGlnThrIleAspThrLeuAsnIleGlnLysAsnLysAsnTyrGlyThrAsnAspLeuSerSerIleLeuGluGlyAsnAlaGlyIleAspAlaAlaTyrAspMetArgGlyGluSerIlePheLeuArgGlyPheGlnAlaAspAlaSerAspIleTyrArgAspGlyValArgGluSerGlyGlnValArgArgSerThrAlaAsnIleGluArgValGluIleLeuLysGlyProSerSerValLeuTyrGlyArgThrAsnGlyGlyGlyValIleAsnMetValSerLysTyrAlaAsnPheLysGlnSerArgAsnIleGlyThrValTyrGlySerTrpAlaAsnArgSerLeuAsnMetAspIleAsnGluValLeuAsnLysAsnValAlaIleArgLeuMetThrGlyGluValGlyArgAlaAsnSerPheArgSerGlyIleAspSerLysAsnValMetValSerProSerIleThrValLysLeuAspAsnGlyLeuLysTrpThrGlyGlnTyrThrTyrAspAsnValGluArgThrProAspArgSerProThrLysSerValTyrAspArgPheGlyLeuGlyProTyrArgMetGlyPheAlaHisArgAsnAspPheValLysAspLysLeuGlnValTrpArgSerAspLeuGluTyrAlaPheAsnAspLysTrpArgAlaGlnTrpGlnLeuAlaHisArgThrAlaAlaGlnAspPheAspHisPheTyrAlaGlySerGluAsnGlyAsnLeuIleLysArgAsnTyrAlaTrpGlnGlnThrAspAsnLysThrLeuSerAsnLeuThrLeuAsnGlyAspTyrThrIleGlyArgPheGluAsnHisLeuThrValGlyMetAspTyrSerArgGluHisArgAsnProThrLeuGlyPheSerAlaPheSerAlaSerIleAsnProTyrAspArgAlaSerTrpProAlaSerGlyArgLeuGlnProIleLeuThrGlnAsnArgHisLysAlaAspSerTyrGlyIlePheValGlnAsnIlePheSerAlaThrProAspLeuLysPheValLeuGlyGlyArgTyrAspLysTyrThrPheAsnSerGluAsnLysLeuThrGlySerSerArgGlnTyrSerGlyHisSerPheSerProAsnIleGlyAlaValTrpAsnIleAsnProValHisThrLeuHisThrAlaSerTyrAsnLysGlyPheAlaProTyrGlyGlyArgGlyGlyTyrLeuSerIleAspThrLeuSerSerAlaValPheAsnAlaAspProGluTyrThrArgGlnTyrGluThrGlyValLysSerSerTrpLeuAspAspArgLeuSerThrLLeuSerAlaTyrGlnIleGluArgPheAsnIleArgTyrArgProAspProLysAsnAsnProTyrIleTyrAlaValIleSerGlyLysHisArgSerArgGlyValGluLeuSerAlaIleGlyGlnIleIleProLysLysLeuTyrLeuArgGlySerLeuGlyValMetGlnAlaLysValValGluAspLysGluAsnProAspArgValGlyIleHisLeuAsnAsnThrSerAsnValThrGlyAsnLeuPhePheArgTyrThrProThrGluAsnLeuTyrGlyGluIleGlyValThrGlyLysArgTyrGlyTyrAspSerArgAsnLysGluValThrThrLeuProGlyPheAlaArgValAspAlaMetLeuGlyTrpAsnHisLysAsnValAsnValThrPheAlaAlaAlaAsnLeuPheAsnGlnLysTyrTrpArgSerAspSerMetProGlyAsnProArgGlyTyrThrAlaArgValAsnTyrArgPhe-703

a762

AMPHI Regions - AMPHI

1-MetLysTrpLeuLeuAsnMetIleMetArgProIleLysPheSerMetValAsnThrLeuLeuPheIleValIleCysSerSerPhePheAspLeuLeuValGlnLeuCysThrIleLeuPheHisSerGlnLysIleTyrPheIleThrLeuPheLeuLeuPheIlePheAsnPheValThrLysSerIleTyrMetAlaIleIleTyrProIleLeuTyrPhePheThrIleLysLysTyrTyrProTyrSerArgLysValIleLeuLeuSerLeuAlaLeuSerIleTyrPheSerPheMetAspPheTyrPhePheSerIleTyrSerAspAsnLeuSerTyrGluThrGluProLeuHisLeuTyrIleProIleIleIleAsnPhePheSerLeuLeuValSerAsnPheIleLeuSerPheIleAsnLys-147

Antigenic Index - Jameson-Wolf

1-MetLysTrpLeuLeuAsnMetIleMetArgProIleLysPheSerMetValAsnThrLeuLeuPheIleValIleCysSerSerPhePheAspLeuLeuValGlnLeuCysThrIleLeuPheHisSerGlnLysIleTyrPheIleThrLeuPheLeuLeuPheIlePheAsnPheValThrLysSerIleTyrMetAlaIleIleTyrProIleLeuTyrPhePheThrIleLysLysTyrTyrProTyrSerArgLysValIleLeuLeuSerLeuAlaLeuSerIleTyrPheSerPheMetAspPheTyrPhePheSerIleTyrSerAspAsnLeuSerTyrGluThrGluProLeuHisLeuTyrIleProIleIleIleAsnPhePheSerLeuLeuValSerAsnPheIleLeuSerPheIleAsnLys-147

Hydrophilic Regions - Hopp-Woods

1-MetLysTrpLeuLeuAsnMetIleMetArgProIleLysPheSerMetValAsnThrLeuLeuPheIleValIleCysSerSerPhePheAspLeuLeuValGlnLeuCysThrIleLeuPheHisSerGlnLysIleTyrPheIleThr

LeuPheLeuLeuPheIlePheAsnPheValThrLysSerIleTyrMetAlaIleIleTyrProIleLeuTyrPhePheThrIleLysLysTyrTyrProTyrSerArgLysValIleIleLeuLeuSerLeuAlaLeuSerIleTyrPheSerPheMetAspPheTyrPheSerIleTyrSerAspAsnLeuSerTyrGluThrGlnProHisLeuTyrIleProIleIleAsnPhePheSerLeuLeuValSerAsnPheIleLeuSerPheIleAsnLys-147

a763

AMPHI Regions - AMPHI

1-MetThrLeuLeuAsnLeuMetIleMetGlnAspTyrGlyIleSerValCysLeuThrLeuThrProTyrLeuGlnHisGluLeuPheSerAlaMetLysSerTyrPheSerLysTyrIleLeuProValSerLeuPheThrLeuProLeuSerLeuSerProSerValSerAlaPheThrLeuProGluAlaTrpArgAlaAlaGlnGlnHisSerAlaAspPheGlnAlaSerHisTyrGlnArgAspAlaValArgAlaArgGlnGlnGlnAlaLysAlaAlaPheLeuProHisValSerAlaAsnAlaSerTyrGlnArgGlnProProSerIleSerSerThrArgGluThrGlnGlyTrpSerValGlnValGlyGlnThrLeuPheAspAlaAlaLysPheAlaGlnTyrArgGlnSerArgPheAspThrGlnAlaAlaGluGlnArgPheAspAlaAlaArgGluGluLeuLeuLysValAlaGluSerTyrPheAsnValLeuLeuSerArgAspThrValAlaAlaHisAlaAlaGluLysGluAlaTyrAlaGlnGlnValArgGlnAlaGlnAlaLeuPheAsnLysGlyAlaAlaThrAlaLeuAspIleHisGluAlaLysAlaGlyTyrAspAsnAlaLeuAlaGlnGluIleAlaValLeuAlaGluLysGlnThrTyrGluAsnGlnLeuAsnAspTyrThrGlyLeuAspSerLysGlnIleGluAlaIleAspThrAlaAsnLeuLeuAlaArgTyrLeuProLysLeuGluArgTyrSerLeuAspGluTrpGlnArgIleAlaLeuSerAsnAsnHisGluTyrArgMetGlnGlnLeuAlaLeuGlnSerSerGlyGlnAlaLeuArgAlaAlaGlnAsnSerArgTyrProThrValSerAlaHisValGlyTyrGlnAsnAsnLeuTyrThrSerSerAlaGlnAsnAsnAspTyrHisTyrArgGlyLysGlyMetSerValGlyValGlnLeuAsnLeuProLeuTyrThrGlyGlyGluLeuSerGlyLysIleHisGluAlaGluAlaGlnTyrGlyAlaAlaGluAlaGlnLeuThrAlaThrGluArgHisIleLysLeuAlaValArgGlnAlaTyrThrGluSerGlyAlaAlaArgTyrGlnIleMetAlaGlnGluArgValLeuGluSerSerArgLysLeuLysSerThrGluThrGlyGlnGlnTyrGlyIleArgAsnArgLeuGluValIleArgAlaArgGlnGluValAlaGlnAlaGluGlnLysLeuAlaGlnAlaArgTyrLysPheMetLeuAlaTyrLeuArgLeuValLysGluSerGlyLeuGlyLeuGluThrValPheAlaGlu-467

Antigenic Index - Jameson-Wolf

1-MetThrLeuLeuAsnLeuMetIleMetGlnAspTyrGlyIleSerValCysLeuThrLeuThrProTyrLeuGlnHisGluLeuPheSerAlaMetLysSerTyrPheSerLysTyrIleLeuProValSerLeuPheThrLeuProLeuSerLeuSerProSerValSerAlaPheThrLeuProGluAlaTrpArgAlaAlaGlnGlnHisSerAlaAspPheGlnAlaSerHisTyrGlnArgAspAlaValArgAlaArgGlnGlnGlnAlaLysAlaAlaPheLeuProHisValSerAlaAsnAlaSerTyrGlnArgGlnProProSerIleSerSerThrArgGluThrGlnGlyTrpSerValGlnValGlyGlnThrLeuPheAspAlaAlaLysPheAlaGlnTyrArgGlnSerArgPheAspThrGlnAlaAlaGluGlnArgPheAspAlaAlaArgGluGluLeuLeuLysValAlaGluSerTyrPheAsnValLeuLeuSerArgAspThrValAlaAlaHisAlaAlaGluLysGluAlaTyrAlaGlnGlnValArgGlnAlaGlnAlaLeuPheAsnLysGlyAlaAlaThrArgLysGlyMetSerValGlyValGlnLeuAsnLeuProLeuTyrThrGlyGlyGluLeuSerValIleHisGluAlaGluAlaGlnTyrGlyAlaAlaGluAlaGlnLeuThrAlaThrGluArgHisIleLysLeuAlaValArgGlnAlaTyrThrGluSerGlyAlaAlaArgTyrGlnIleMetAlaGlnGluArgValLeuGluSerSerArgLysLeuLysSerThrGluThrGlyGlnGlnTyrGlyIleArgAsnArgLeuGluValIleArgAlaArgGlnGluValAlaGlnAlaGluGlnLysLeuAlaGlnAlaArgTyrLysPheMetLeuAlaTyrLeuArgLeuValLysGluSerGlyLeuGlyLeuGluThrValPheAlaGlu-467

Hydrophilic Regions - Hopp-Woods

1-MetThrLeuLeuAsnLeuMetIleMetGlnAspTyrGlyIleSerValCysLeuThrLeuThrProTyrLeuGlnHisGluLeuPheSerAlaMetLysSerTyrPheSerLysTyrIleLeuProValSerLeuPheThrLeuProLeuSerLeuSerProSerValSerAlaPheThrLeuProGluAlaTrpArgAlaAlaGlnGlnHisSerAlaAspPheGlnAlaSerHisTyrGlnArgAspAlaValArgAlaArgGlnGlnGlnAlaLysAlaAlaPheLeuProHisValSerAlaAsnAlaSerTyrGlnArgGlnProProSerIleSerSerThrArgGluThrGlnGlyTrpSerValGlnValGlyGlnThrLeuPheAspAlaAlaLysPheAlaGlnTyrArgGlnSerArgPheAspThrGlnAlaAlaGluGlnArgPheAspAlaAlaArgGluGluLeuLeuLysValAlaGluSerTyrPheAsnValLeuLeuSerArgAspTh

rValAlaAlaHisAlaAlaGluLysGluAlaTyrAlaGlnGlnValArgGlnAlaGlnAlaLeuPheAsnLysGlyAlaAlaThrAlaLeuAspIleHisGluAlaLysAlaGlyTyrAspAsnAlaLeuAlaGlnGluIleAlaValLeuAlaGluLysGlnThrTyrGluAsnGlnLeuAsnAspTyrThrGlyLeuAspSerLysGlnIleGluAlaIleAspThrAlaAsnLeuLeuAlaArgTyrLeuProLysLeuGluArgTyrSerLeuAspGluTrpGlnArgIleAlaLeuSerAsnAsnHisGluTyrArgMetGlnGlnLeuAlaLeuGlnSerSerGlyGlnAlaLeuArgAlaAlaGlnAsnSerArgTyrProThrValSerAlaHisValGlyTyrGlnAsnAsnLeuTyrThrSerSerAlaGlnAsnAsnAspTyrHisTyrArgGlyLysGlyMetSerValGlyValGlnLeuAsnLeuProLeuTyrThrGlyGlyGluLeuSerGlyLysIleHisGluAlaGlnAlaGlnTyrGlyAlaAlaGluAlaGlnLeuThrAlaThrGluArgHisIleLysLeuAlaValArgGlnAlaTyrThrGluSerGlyAlaAlaArgTyrGlnIleMetAlaGlnGluArgValLeuGluSerSerArgLeuLysLeuLysSerThrGluThrGlyGlnGlnTyrGlyIleArgAsnArgLeuGluValIleArgAlaArgGlnGluValAlaGlnAlaGluGlnLysLeuAlaGlnAlaArgTyrLysPheMetLeuAlaTyrLeuArgLeuValLysGluSerGlyLeuGlyLeuGluThrValPheAlaGlu-467

a764

AMPHI Regions - AMPHI

1-MetPhePheSerAlaLeuLysSerPheLeuSerArgTyrIleThrValTrpArgAsnValTrpAlaValArgAspGlnLeuGluProProLysArgThrAlaGluGluGlnAlaPheLeuProAlaHisLeuGluLeuThrAspThrProValSerAlaAlaProLysTrpAlaAlaArgPheIleMetAlaPheAlaLeuLeuAlaLeuTrpSerTrpPheGlyLysIleAspIleValAlaAlaAlaSerGlyLysThrValSerGlyGlyArgSerLysThrIleGlnProLeuGluThrValValValLysAlaValHisValArgAspGlyGlnHisValLysGlnGlyGluThrLeuAlaGluLeuGluAlaValGlyThrAspSerAspValValGlnSerGluGlnAlaLeuGlnAlaAlaGlnLeuSerLysLeuArgTyrGluAlaValLeuAlaAlaLeuGluSerArgThrValProHisIleAspMetAlaGlnAlaArgSerLeuGlyLeuSerAspAlaAspValGlnSerAlaGlnValLeuAlaGlnHisGlnTyrGlnAlaTrpAlaAlaGlnAspAlaGlnLeuGlnSerAlaLeuArgGlyHisGlnAlaGluLeuGlnSerAlaLysAlaGlnGluGlnLysLeuValSerValGlyAlaIleGluGlnGlnLysThrAlaAspTyrArgArgLeuArgAlaAspAsnPheIleSerGluHisAlaPheLeuGluGlnSerLysSerValSerAsnTrpAsnAspLeuGluSerThrArgGlyGlnMetArgGlnIleGlnAlaAlaIleAlaGlnAlaGlnGlnSerArgThrValProHisIleAspMetAlaGlnAlaArgSerLeuGlyLeuGlnAlaAsnGluGlnIleAspGlnTyrArgGlyGlnThrAspLysAlaLysGlnArgGlnGlnLeuMetThrIleGlnSerProAlaAspGlyThrValGlnGlnLeuAlaThrTyrThrValGlyGlyValValGlnAlaAlaGlnLysMetMetValValAlaProAspAspLysMetAspValGluValLeuValLeuAsnLysAspIleGlyPheValGluGlnGlyGlnAspAlaValValLysIleGluSerPheProTyrThrArgTyrGlyTyrLeuThrGlyLysValLysSerValSerHisAspAlaValSerHisGlnGlnLeuGlyLeuValTyrThrAlaValValSerLeuAspLysHisThrLeuAsnIleAspGlyLys-435

Antigenic Index - Jameson-Wolf

1-MetPhePheSerAlaLeuLysSerPheLeuSerArgTyrIleThrValTrpArgAsnValTrpAlaValArgAspGlnLeuGluProProLysArgThrAlaGluGluGlnAlaPheLeuProAlaHisGluLeuThrAspThrProValSerAlaAlaProLysTrpAlaAlaArgPheIleMetAlaPheAlaLeuLeuAlaLeuTrpSerTrpPheGlyLysIleAspIleValAlaAlaAlaSerGlyLysThrValSerGlyGlyArgSerLysThrIleGlnProLeuGluThrValValValLysAlaValHisValArgAspGlyGlnHisValLysGlnGlyGluThrLeuAlaGluLeuGluAlaValGlyThrAspSerAspValValGlnSerGluGlnAlaLeuGlnAlaAlaGlnLeuSerLysLeuArgTyrGluAlaValLeuAlaGlnAlaLeuGluSerArgThrValProHisIleAspMetAlaGlnAlaArgSerLeuGlyLeuSerAspAlaAspValGlnSerAlaGlnValLeuAlaGlnHisGlnTyrGlnAlaTrpAlaAlaGlnAspAlaGlnLeuGlnSerAlaLeuArgGlyHisGlnAlaGluLeuGlnSerAlaLysAlaGlnGluGlnLysLeuValSerValGlyAlaIleGluGlnGlnLysThrAlaAspTyrArgArgLeuArgAlaAspAsnPheIleSerGluHisAlaPheLeuGluGlnSerLysSerValSerAsnTrpAsnAspLeuGluSerThrArgGlyGlnMetArgGlnIleGlnAlaAlaIleAlaGlnAlaGlnGlnAsnArgThrValProHisIleAspMetAlaGlnAlaArgSerLeuGlyLeuGlnAlaAsnGluGlnIleAspGlnTyrArgGlyGlnThrAspLysAlaLysGlnArgGlnGlnLeuMetThrIleGlnSerProAlaAspGlyThrValGlnGlnLeuAlaThrTyrThrValGlyGlyValValGlnAlaAlaGlnLysMetMetValValAlaProAspAspLysMetAspValGluValLeuValLeuAsnLysAspIleGlyPheValGluGlnGlyGlnAspAlaValValLysIleGluSerPheProTyrThrArgTyrGlyTyrLeuThrGlyLysValLysSerValSerHisAspAlaValSerHisGlnGlnLeuGlyLeuValTyrThrAlaValValSerLeuAspLysHisThrLeuAsnIleAspGlyLys-435

Hydrophilic Regions - Hopp-Woods

1-MetPhePheSerAlaLeuLysSerPheLeuSerArgTyrIleThrValTrpArgAsnValTrpAlaValArgAspGlnLeuGluProProLysArgThrAlaGluGluGlnAlaPheLeuProAlaHisLeuGluLeuThrAspThrProValSerAlaAlaProLysTrpAlaAlaArgPheIleMetAlaPheAlaLeuAlaLeuLeuTrpSerTrpPheGlyLysIleAspIleValAlaAlaAlaSerGlyLysThrValSerGlyGlyArgSerLysThrIleGlnProLeuGluThrValValValLysAlaValHisValArgAspGlyGlnHisValLysGlnGlyGluThrLeuAlaGluLeuGluAlaValGlyThrAspSerAspValValGlnSerGluGlnAlaLeuGlnAlaAlaGlnLeuSerLysLeuArgTyrGluAlaValLeuAlaAlaLeuGluSerArgThrValProHisIleAspMetAlaGlnAlaArgSerLeuGlyLeuSerAspAlaAspValGlnSerAlaGlnValLeuAlaGlnHisGlnTyrGlnAlaTrpAlaAlaGlnAspAlaGlnLeuGlnSerAlaLeuArgGlyHisGlnAlaGluLeuGlnSerAlaLysAlaGlnGluGlnLysLeuValSerValGlyAlaIleGluGlnGlnLysThrAlaAspTyrArgArgLeuArgAlaAspAsnPheIleSerGluHisAlaPheLeuGluGlnSerLysSerValSerAsnTrpAsnAspLeuGluSerThrArgGlyGlnMetArgGlnIleGlnAlaAlaIleAlaGlnAlaGluGlnAsnArgValLeuAsnThrGlnAsnLeuLysArgAspThrLeuAspAlaLeuArgGlnAlaAsnGluGlnIleAspGlnTyrArgGlyGlnThrAspLysAlaLysGlnArgGlnGlnLeuMetThrIleGlnSerProAlaAspGlyThrValGlnGluLeuAlaThrTyrThrValGlyGlyValValGlnAlaAlaGlnLysMetMetValValAlaProAspAspAspLysMetAspValGluValLeuValLeuAsnLysAspIleGlyPheValGluGlnGlyGlnAspAlaValValLysIleGluSerPheProTyrThrArgTyrGlyTyrLeuThrGlyLysValLysSerValSerHisAspAlaValSerHisGluGlnLeuGlyLeuValTyrThrAlaValValSerLeuAspLysHisThrLeuAsnIleAspGlyLys-435

a765**AMPHI Regions - AMPHI**

36-SerAlaIleSerSerPheCys-42
 45-LysIleIleHisThrTyr-50
 59-ValIleGlyIleIleAsnGly-65
 105-ArgPheLeuAsnArgGly-110
 147-PheGlyLeuCysTyrPro-152

Antigenic Index - Jameson-Wolf

10-GlyAsnPheLysLysIleAlaThr-17
 19-GlnGlyLeuAspArgLysTyr-25
 76-ValLysAsnLysGlnLysPheLeu-83
 106-PheLeuAsnArgGlyMetLys-112
 132-LeuAsnGluGluGlyGlyTrpMet-139
 160-LeuSerArgAspTyrLysHisIle-167

Hydrophilic Regions - Hopp-Woods

11-AsnPheLysLysIleAlaThr-17
 19-GlnGlyLeuAspArgLys-24
 76-ValLysAsnLysGlnLysPheLeu-83
 133-AsnGluGluGlyGly-137
 162-ArgAspTyrLysHis-166

a767**AMPHI Regions - AMPHI**

42-LysIleGluValLeuGluPhePheGlyTyrPheCysVal-54
 89-GlyLeuAlaArgMetAlaAlaAlaValLys-98
 140-LysLysLeuMetArgAlaTyrAspSerProAlaAla-151
 156-SerLysMetGlnGlnLeuThrGluGlnTyrArg-166
 187-PheAspGlyGlyValHisThrIleLysGluLeuValAla-199

Antigenic Index - Jameson-Wolf

23-ThrGluGlyGluAspTyrLeuVal-30
 33-LysProIleProGlnLysGlnSerGlyLysIleGluVal-45
 70-LeuProSerAspAlaTyrLeuArg-77
 99-LeuSerGlyLeuLysTyrGlnAla-106
 115-TyrGluGlnLysIleArgLeuGluAsnArgSerValAlaGlu-128
 130-TrpAlaLeuSerGlnLysGlyPheAspGlyLysLysLeuMetArgAlaTyrAspSerProAla-150

-618-

156-SerLysMetGlnGlnLeuThrGluGlnTyrArgIleAspSerThrProThr-172
 175-ValGlyGlyLysTyrArgVal-181
 183-PheAsnAsnGlyPheAspGlyGly-190
 197-LeuValAlaLysValArgGluGluArgLysArgGlnThrProAlaValGlnLys-214

Hydrophilic Regions - Hopp-Woods

23-ThrGluGlyGluAsp-27
 33-LysProIleProGlnLysGlnSerGlyLysIleGluVal-45
 115-TyrGluGlnLysIleArgLeuGluAsnArgSerValAlaGlu-128
 135-LysGlyPheAspGlyLysLysLeuMetArgAlaTyrAsp-147
 156-SerLysMetGlnGlnLeu-161
 165-TyrArgIleAspSer-169
 197-LeuValAlaLysValArgGluGluArgLysArgGlnThrProAlaValGlnLys-214

a768**AMPHI Regions - AMPHI**

1-MetAsnIleLysHisLeuIleThrAlaAlaLeuIleAlaSerAlaAlaPheAlaAlaGlnAlaAlaProGlnLysProValSerAlaAlaGlnThrAlaGlnHisSerAlaValTrpIleAspValArgSerGluGlnGluPheSerGluGlyHisLeuHisAsnAlaValAsnIleProValAspGlnIleValArgArgIleHisGluAlaAlaProAspLysAspThrProValAsnLeuTyrCysArgSerGlyArgArgAlaGluAlaAlaLeuGlnGluLeuLysLysAlaGlyTyrThrAsnValAlaAsnHisGlyGlyTyrGluAspLeuLeuLysLysGlyMetLys

Antigenic Index - Jameson-Wolf

1-MetAsnIleLysHisLeuIleThrAlaAlaLeuIleAlaSerAlaAlaPheAlaAlaGlnAlaAlaProGlnLysProValSerAlaAlaGlnThrAlaGlnHisSerAlaValTrpIleAspValArgSerGluGlnGluPheSerGluGlyHisLeuHisAsnAlaValAsnIleProValAspGlnIleValArgArgIleHisGluAlaAlaProAspLysAspThrProValAsnLeuTyrCysArgSerGlyArgArgAlaGluAlaAlaLeuGlnGluLeuLysLysAlaGlyTyrThrAsnValAlaAsnHisGlyGlyTyrGluAspLeuLeuLysLysGlyMetLys

Hydrophilic Regions - Hopp-Woods

1-MetAsnIleLysHisLeuIleThrAlaAlaLeuIleAlaSerAlaAlaPheAlaAlaGlnAlaAlaProGlnLysProValSerAlaAlaGlnThrAlaGlnHisSerAlaValTrpIleAspValArgSerGluGlnGluPheSerGluGlyHisLeuHisAsnAlaValAsnIleProValAspGlnIleValArgArgIleHisGluAlaAlaProAspLysAspThrProValAsnLeuTyrCysArgSerGlyArgArgAlaGluAlaAlaLeuGlnGluLeuLysLysAlaGlyTyrThrAsnValAlaAsnHisGlyGlyTyrGluAspLeuLeuLysLysGlyMetLys-119

a769**AMPHI Regions - AMPHI**

1-LeuIleMetValIlePheTyrPheCysGlyLysThrPheMetProAlaArgAsnArgTrpMetLeuLeuLeuProLeuLeuAlaSerAlaAlaTyrAlaGluGluThrProArgGluProAspLeuArgSerArgProGluPheArgLeuHisGluAlaGluValLysProIleAspArgGluLysValProGlyGlnValArgSerGluLysGlyLysValGlnIleAspGlyGluThrLeuLeuLysAsnProGluLeuLeuSerArgAlaMetTyrSerAlaValValSerAsnAsnIleAlaGlyIleArgValIleLeuProIleTyrLeuGlnGlnAlaGlnGlnAspLysMetLeuAlaLeuTyrAlaGlnGlyIleLeuAlaGlnAlaAspGlyArgValLysGluAlaIleSerHisTyrArgGluLeuIleValAlaGlnProAspAlaProAlaValArgMetArgLeuAlaAlaAlaLeuPheGluAsnArgGlnAsnGluAlaAlaAlaAspGlnPheAspArgLeuLysAlaGluAsnLeuProProGlnLeuMetGluGlnValGluLeuTyrArgLysAlaLeuArgGluArgAspAlaTrpLysValAsnGlyGlyPheSerValThrArgGluHisAsnIleAsnGlnAlaProLysArgGlnGlnTyrGlyLysTrpThrPheProLysGlnValAspGlyThrAlaValAsnTyrArgLeuGlyAlaGluLysLysTrpSerLeuLysAsnGlyTrpTyrThrThrAlaGlyGlyAspValSerGlyArgValTyrProGlyAsnLysLysPheAsnAspMetThrAlaGlyValSerGlyGlyIleGlyPheAlaAspArgArgLysAspAlaGlyLeuAlaValPheHisGluArgArgThrTyrGlyAsnAspAlaTyrSerTyrThrAsnGlyAlaArgLeuTyrPheAsnArgTrpGlnThrProLysTrpGlnThrLeuSerSerAlaGluTrpGlyArgLeuLysAsnThrArgArgAlaArgSerAspAsnThrHisLeuGlnIleSerAsnSerLeuValPheTyrArgAsnAlaArgGlnTyrTrpMetGlyGlyLeuAspPheTyrArgGluArgAsnProAlaAspArgGlyAspAsnPheAsnArgTyrGlyLeuArgPheAlaTrpGlyGlnGluTrpGlyGlySerGlyLeuSerSerLeuLeuArgLeuGlyAlaAlaLysArgHisTyrGluLysProGlyPhePheSerGlyPheLysGlyGluArgArgArgAspLysGluLeuAsnThrSerLeuSerLeuTrpHisArgAlaLeuHisPheLysGlyIleThrProArgLeuThrLeuSerHisArgGluThrArgSerAsnAspValPheAsnGluTyrGluLysAsnArgAlaPheValGluPheAsnLysThrPhe-490

Antigenic Index - Jameson-Wolf

1-LeuIleMetValIlePheTyrPheCysGlyLysThrPheMetProAlaArgAsnArgTrpMetLeuLeuLeuPro
 leuLeuAlaSerAlaAlaTyrAlaGluGluThrProArgGluProAspLeuArgSerArgProGluPheArgLeu
 HisGluAlaGluValLysProIleAspArgGluLysValProGlyGlnValArgGluLysGlyLysValLeuGlnI
 leAspGlyGluThrLeuLeuLysAsnProGluLeuLeuSerArgAlaMetTyrSerAlaValValSerAsnAsnIle
 eAlaGlyIleArgValIleLeuProIleTyrLeuGlnGlnAlaGlnGlnAspLysMetLeuAlaLeuTyrAlaGln
 GlyIleLeuAlaGlnAlaAspGlyArgValLysGluAlaIleSerHisTyrArgGluLeuIleValAlaGlnProA
 spAlaProAlaValArgMetArgLeuAlaAlaAlaLeuPheGluAsnArgGlnAsnGluAlaAlaAlaAspGlnPh
 eAspArgLeuLysAlaGluAsnLeuProProGlnLeuMetGluGlnValGluLeuTyrArgLysAlaLeuArgGlu
 ArgAspAlaTrpLysValAsnGlyGlyPheSerValThrArgGluHisAsnIleAsnGlnAlaProLysArgGlnG
 lnTyrGlyLysTrpThrPheProLysGlnValAspGlyThrAlaValAsnTyrArgLeuGlyAlaGluLysLysTr
 pSerLeuLysAsnGlyTrpTyrThrAlaGlyGlyAspValSerGlyArgValTyrProGlyAsnLysLysPhe
 AsnAspMetThrAlaGlyValSerGlyGlyIleGlyPheAlaAspArgArgLysAspAlaGlyLeuAlaValPheH
 isGluArgArgThrTyrGlyAsnAspAlaTyrSerTyrThrAsnGlyAlaArgLeuTyrPheAsnArgTrpGlnTh
 rProLysTrpGlnThrLeuSerSerAlaGluTrpGlyArgLeuLysAsnThrArgArgAlaArgSerAspAsnThr
 HisLeuGlnIleSerAsnSerLeuValPheTyrArgAsnAlaArgGlnTyrTrpMetGlyGlyLeuAspPheTyrA
 rgGluArgAsnProAlaAspArgGlyAspAsnPheAsnArgTyrGlyLeuArgPheAlaTrpGlyGlnGluTrpG
 lyGlySerGlyLeuSerSerLeuLeuArgLeuGlyAlaAlaLysArgHisTyrGluLysProGlyPhePheSerGly
 PheLysGlyGluArgArgArgAspLysGluLeuAsnThrSerLeuSerLeuTrpHisArgAlaLeuHisPheLysG
 lyIleThrProArgLeuThrLeuSerHisArgGluThrArgSerAsnAspValPheAsnGluTyrGluLysAsnAr
 gAlaPheValGluPheAsnLysThrPhe-490

Hydrophilic Regions - Hopp-Woods

1-LeuIleMetValIlePheTyrPheCysGlyLysThrPheMetProAlaArgAsnArgTrpMetLeuLeuLeuPr
 oLeuLeuAlaSerAlaAlaTyrAlaGluGluThrProArgGluProAspLeuArgSerArgProGluPheArgLeu
 HisGluAlaGluValLysProIleAspArgGluLysValProGlyGlnValArgGluLysGlyLysValLeuGlnI
 leAspGlyGluThrLeuLeuLysAsnProGluLeuLeuSerArgAlaMetTyrSerAlaValValSerAsnAsnIle
 eAlaGlyIleArgValIleLeuProIleTyrLeuGlnGlnAlaGlnGlnAspLysMetLeuAlaLeuTyrAlaGln
 GlyIleLeuAlaGlnAlaAspGlyArgValLysGluAlaIleSerHisTyrArgGluLeuIleValAlaGlnProA
 spAlaProAlaValArgMetArgLeuAlaAlaAlaLeuPheGluAsnArgGlnAsnGluAlaAlaAlaAspGlnPh
 eAspArgLeuLysAlaGluAsnLeuProProGlnLeuMetGluGlnValGluLeuTyrArgLysAlaLeuArgGlu
 ArgAspAlaTrpLysValAsnGlyGlyPheSerValThrArgGluHisAsnIleAsnGlnAlaProLysArgGlnG
 lnTyrGlyLysTrpThrPheProLysGlnValAspGlyThrAlaValAsnTyrArgLeuGlyAlaGluLysLysTr
 pSerLeuLysAsnGlyTrpTyrThrThrAlaGlyGlyAspValSerGlyArgValTyrProGlyAsnLysLysPhe
 AsnAspMetThrAlaGlyValSerGlyGlyIleGlyPheAlaAspArgArgLysAspAlaGlyLeuAlaValPheH
 isGluArgArgThrTyrGlyAsnAspAlaTyrSerTyrThrAsnGlyAlaArgLeuTyrPheAsnArgTrpGlnTh
 rProLysTrpGlnThrLeuSerSerAlaGluTrpGlyArgLeuLysAsnThrArgArgAlaArgSerAspAsnThr
 HisLeuGlnIleSerAsnSerLeuValPheTyrArgAsnAlaArgGlnTyrTrpMetGlyGlyLeuAspPheTyrA
 rgGluArgAsnProAlaAspArgGlyAspAsnPheAsnArgTyrGlyLeuArgPheAlaTrpGlyGlnGluTrpG
 lyGlySerGlyLeuSerSerLeuLeuArgLeuGlyAlaAlaLysArgHisTyrGluLysProGlyPhePheSerGly
 PheLysGlyGluArgArgArgAspLysGluLeuAsnThrSerLeuSerLeuTrpHisArgAlaLeuHisPheLysG
 lyIleThrProArgLeuThrLeuSerHisArgGluThrArgSerAsnAspValPheAsnGluTyrGluLysAsnAr
 gAlaPheValGluPheAsnLysThrPhe-490
 a770

AMPHI Regions - AMPHI

1-MetAsnArgLeuLeuLeuLeuSerAlaAlaValLeuLeuThrAlaCysGlySerGlyGluThrAspLysIleG
 lyArgAlaSerThrValPheAsnIleLeuGlyLysAsnAspArgIleGluValGluGlyPheAspAspProAspVal
 GlnGlyValAlaCysTyrIleSerTyrAlaLysLysGlyGlyLeuLysGluMetValAsnLeuGluGluAspAlaS
 erAspAlaSerValSerCysValGlnThrAlaSerSerIleSerPheAspGluThrAlaValArgLysProLysG
 luValPheLysHisGlyAlaSerPheAlaPheLysSerArgGlnIleValArgTyrTyrAspProLysArgLysThr
 PheAlaTyrLeuValTyrSerAspLysIleIleGlnGlySerProLysAsnSerLeuSerAlaValSerCysPheG
 lyGlyGlyIleProGlnThrAspGlyValGlnAlaAspThrSerGlyAsnLeuLeuAlaGlyAlaCysMetIleSe
 rAsnProIleGluAsnProAspLysArg-186

Antigenic Index - Jameson-Wolf

1-MetAsnArgLeuLeuLeuLeuSerAlaAlaValLeuLeuThrAlaCysGlySerGlyGluThrAspLysIleGlyArgAlaSerThrValPheAsnIleLeuGlyLysAsnAspArgIleGluValGluGlyPheAspAspProAspValGlnGlyValAlaCysTyrIleSerTyrAlaLysLysGlyGlyLeuLysGluMetValAsnLeuGluGluAspAlaSerAspAlaSerValSerCysValGlnThrAlaSerSerIleSerPheAspGluThrAlaValArgLysProLysGluValPheLysHisGlyAlaSerPheAlaPheLysSerArgGlnIleValArgTyrTyrAspProLysArgLysThrPheAlaTyrLeuValTyrSerAspLysIleIleGlnGlySerProLysAsnSerLeuSerAlaValSerCysPheGlyGlyIleProGlnThrAspGlyValGlnAlaAspThrSerGlyAsnLeuLeuAlaGlyAlaCysMetIleSerAsnProIleGluAsnProAspLysArg-186

Hydrophilic Regions - Hopp-Woods

1-MetAsnArgLeuLeuLeuLeuSerAlaAlaValLeuLeuThrAlaCysGlySerGlyGluThrAspLysIleGlyArgAlaSerThrValPheAsnIleLeuGlyLysAsnAspArgIleGluValGluGlyPheAspAspProAspValGlnGlyValAlaCysTyrIleSerTyrAlaLysLysGlyGlyLeuLysGluMetValAsnLeuGluGluAspAlaSerAspAlaSerValSerCysValGlnThrAlaSerSerIleSerPheAspGluThrAlaValArgLysProLysGluValPheLysHisGlyAlaSerPheAlaPheLysSerArgGlnIleValArgTyrTyrAspProLysArgLysThrPheAlaTyrLeuValTyrSerAspLysIleIleGlnGlySerProLysAsnSerLeuSerAlaValSerCysPheGlyGlyIleProGlnThrAspGlyValGlnAlaAspThrSerGlyAsnLeuLeuAlaGlyAlaCysMetIleSerAsnProIleGluAsnProAspLysArg-186

a771

AMPHI Regions - AMPHI

1-MetAspLeuLeuSerValPheHisLysTyrArgLeuLysTyrAlaValAlaValLeuThrIleLeuLeuAlaAlaIleGlyLeuHisAlaSerValTyrArgIlePheThrProGluAsnIleArgSerArgLeuGlnGlnSerIleAlaHisThrHisArgLysIleSerPheAspAlaAspIleGlnArgArgLeuLeuProArgProThrValIleLeuLysAsnLeuThrIleThrGluProGlyGlyAspArgThrAlaValSerValGlnGluThrLysIleGlyLeuSerTrpLysAsnLeuTrpSerAspGlnIleGlnIleGluLysTrpValValSerSerAlaGluLeuAlaLeuThrArgAspGlyLysGlyValTyrAsnIleGlnAspLeuIleAspSerGlnLysArgGlnAlaSerValAsnArgIleIleValGluAsnSerThrValArgLeuAsnPheLeuGlnGluGlnIleLeuLysGluIleAsnLeuAsnGlnSerProAspSerSerGlyGlnProPheGluSerSerGlyIleLeuValTrpGlyLysLeuSerValProTrpLysSerArgGlyLeuPheLeuSerAspGlyIleGlyThrProLysIleSerProPheHisPheGluAlaSerThrSerLeuAspGlyHisGlyIleThrIleSerThrThrGlySerProSerValArgPheAsnAlaGlyGlyAlaAspAlaAlaGlyLeuGlyLeuArgAlaAspThrSerPheArgAsnLeuHisLeuThrAlaGlnIleProThrLeuAlaLeuArgAsnAsnSerIleLysIleGluThrValAsnGlyAlaPheThrAlaGlyGlyGluTyrAlaGlnTrpAspGlySerPheLysLeuAspLysAlaAsnLeuHisSerGlyIleAlaAsnIleGlyAsnAlaGluIleSerGlySerPheLysThrProArgHisGlnThrAsnPheSerLeuAsnSerProLeuValTrpThrGluAsnLysGlyLeuAspAlaProArgLeuValSerThrLeuGlnAspThrValAsnArgLeuProGlnProArgPheIleSerArgLeuAspGlySerLeuSerValProAsnLeuGlnAsnTrpAsnAlaGluLeuAsnGlyThrPheAspArgGlnThrValAlaAlaLysPheArgTyrThrHisGluAspAlaProHisLeuGluAlaAlaValAlaLeuGlnLysLeuAsnLeuThrProTyrPheAspAspValArgGlnGlnAsnGlyLysIlePheProAspThrLeuAlaLysLeuSerGlyAspIleGluAlaHisLeuLysIleGlyLysValGlnLeuProGlyLeuGlnLeuAspAspMetGluThrTyrLeuHisAlaAspLysGlyHisIleAlaLeuSerArgPheLysSerGlyLeuThrGlyGlyHisThrGluGlyGlyIleSerIleAlaAsnThrArgProAlaThrTyrArgLeuGlnGlnAsnAlaSerAsnIleGlnIleGlnProLeuLeuGlnAspLeuPheGlyPheHisSerPheSerGlyAsnGlyAspAlaValIleAspLeuThrAlaGlyGlyGluThrArgLysGluLeuIleArgSerLeuGlnGlySerLeuSerLeuAsnIleSerAsnGlyAlaTrpHisGlyIleAspMetAspAsnIleLeuLysAsnGlyIleSerGlyLysThrAlaAspAsnAlaAlaProSerThrProPheHisArgPheThrLeuAsnSerGluIleSerAspGlyIleSerArgHisIleAspThrGluLeuPheSerAspSerLeuTyrValThrSerAsnGlyTyrThrAlaLeuAspThrGlnGluLeuSerGluAspValLeuIleArgAsnAlaValHisProLysAsnLysProIleProLeuLysIleThrGlyThrValAspLysProSerIleThrValAspTyrGlyArgLeuThrGlyGlyIleAsnSerArgLysGluLysGlnLysIleLeuGluAspThrLeuLeuGluGlnTrpGlnTrpLeuLysProLysGluPro-704

Antigenic Index - Jameson-Wolf

1-MetAspLeuLeuSerValPheHisLysTyrArgLeuLysTyrAlaValAlaValLeuThrIleLeuLeuLeuAlaAlaIleGlyLeuHisAlaSerValTyrArgIlePheThrProGluAsnIleArgSerArgLeuGlnGlnSerIleAlaHisThrHisArgLysIleSerPheAspAlaAspIleGlnArgArgLeuLeuProArgProThrValIleLeuLysAsnLeuThrIleThrGluProGlyGlyAspArgThrAlaValSerValGlnGluThrLysIleGlyLeuSerTrp

pLysAsnLeuTrpSerAspGlnIleGlnIleGluLysTrpValValSerSerAlaGluLeuAlaLeuThrArgAsp
 GlyLysGlyValTrpAsnIleGlnAspLeuIleAspSerGlnLysArgGlnAlaSerValAsnArgIleIleValG
 luAsnSerThrValArgLeuAsnPheLeuGlnGluGlnIleLeuLysGluIleAsnLeuAsnGlnSerPr
 oAspSerSerGlyGlnProPheGluSerSerGlyIleLeuValTrpGlyLysLeuSerValProTrpLysSerArg
 GlyLeuPheLeuSerAspGlyIleGlyThrProLysIleSerProPheHisPheGluAlaSerThrSerLeuAspG
 lyHisGlyIleThrIleSerThrThrGlySerProSerValArgPheAsnAlaGlyGlyAlaAspAlaAaGlyLe
 uGlyLeuArgAlaAspThrSerPheArgAsnLeuHisLeuThrAlaGlnIleProThrLeuAlaLeuArgAsnAsn
 SerIleLysIleGluThrValAsnGlyAlaPheThrAlaGlyGlyGluTyrAlaGlnTrpAspGlySerPheLysL
 euAspLysAlaAsnLeuHisSerGlyIleAlaAsnIleGlyAsnAlaGluIleSerGlySerPheLysThrProAr
 gHisGlnThrAsnPheSerLeuAsnSerProLeuValTrpThrGluAsnLysGlyLeuAspAlaProArgLeuTyr
 ValSerThrLeuGlnAspThrValAsnArgLeuProGlnProArgPheIleSerArgLeuAspGlySerLeuSerV
 alProAsnLeuGlnAsnTrpAsnAlaGluLeuAsnGlyThrPheAspArgGlnThrValAlaAlaLysPheArgTy
 rThrHisGluAspAlaProHisLeuGluAlaAlaValAlaLeuGlnLysLeuAsnLeuThrProTyrLeuAspAsp
 ValArgGlnGlnAsnGlyLysIlePheProAspThrLeuAlaLysLeuSerGlyAspIleGluAlaHisLeuLysI
 leGlyLysValGlnLeuProGlyLeuGlnLeuAspAspMetGluThrTyrLeuHisAlaAspLysGlyHisIleAl
 aLeuSerArgPheLysSerGlyLeuTyrGlyGlyHisThrGluGlyGlyIleSerIleAlaAsnThrArgProAla
 ThrTyrArgLeuGlnGlnAsnAlaSerAsnIleGlnIleGlnProLeuLeuGlnAspLeuPheGlyPheHisSerP
 heSerGlyAsnGlyAspAlaValIleAspLeuThrAlaGlyGlyGluThrArgLysGluLeuIleArgSerLeuG
 lnGlySerLeuSerLeuAsnIleSerAsnGlyAlaTrpHisGlyIleAspMetAspAsnIleLeuLysAsnGlyIle
 SerGlyLysThrAlaAspAsnAlaAlaProSerThrProPheHisArgPheThrLeuAsnSerGluIleSerAspG
 lyIleSerArgHisIleAspThrGluLeuPheSerAspSerLeuTyrValThrSerAsnGlyTyrThrAsnLeuAs
 pThrGlnGluLeuSerGluAspValLeuIleArgAsnAlaValHisProLysAsnLysProIleProLeuLysIle
 ThrGlyThrValAspLysProSerIleThrValAspTyrGlyArgLeuThrGlyGlyIleAsnSerArgLysGluL
 ysGlnLysIleLeuGluAspThrLeuLeuGluGlnTrpGlnTrpLeuLysProLysGluPro-704

Hydrophilic Regions - Hopp-Woods

1-MetAspLeuSerValPheHisLysTyrArgLeuLysTyrAlaValAlaValLeuThrIleLeuLeuLeuAla
 alaIleGlyLeuHisAlaSerValTyrArgIlePheThrProGluAsnIleArgSerArgLeuGlnGlnSerIle
 AlaHisThrHisArgLysIleSerPheAspAlaAspIleGlnArgArgLeuLeuProArgProThrValIleLeuL
 ysAsnLeuThrIleThrGluProGlyGlyAspArgThrAlaValSerValGlnGluThrLysIleGlyLeuSerTr
 pLysAsnLeuTrpSerAspGlnIleGlnIleGluLysTrpValValSerSerAlaGluLeuAlaLeuThrArgAsp
 GlyLysGlyValTrpAsnIleGlnAspLeuIleAspSerGlnLysArgGlnAlaSerValAsnArgIleIleValG
 luAsnSerThrValArgLeuAsnPheLeuGlnGluGlnIleLeuLysGluIleAsnLeuAsnGlnSerPr
 oAspSerSerGlyGlnProPheGluSerSerGlyIleLeuValTrpGlyLysLeuSerValProTrpLysSerArg
 GlyLeuPheLeuSerAspGlyIleGlyThrProLysIleSerProPheHisPheGluAlaSerThrSerLeuAspG
 lyHisGlyIleThrIleSerThrThrGlySerProSerValArgPheAsnAlaGlyGlyAlaAspAlaAaGlyLe
 uGlyLeuArgAlaAspThrSerPheArgAsnLeuHisLeuThrAlaGlnIleProThrLeuAlaLeuArgAsnAsn
 SerIleLysIleGluThrValAsnGlyAlaPheThrAlaGlyGlyGluTyrAlaGlnTrpAspGlySerPheLysL
 euAspLysAlaAsnLeuHisSerGlyIleAlaAsnIleGlyAsnAlaGluIleSerGlySerPheLysThrProAr
 gHisGlnThrAsnPheSerLeuAsnSerProLeuValTrpThrGluAsnLysGlyLeuAspAlaProArgLeuTyr
 ValSerThrLeuGlnAspThrValAsnArgLeuProGlnProArgPheIleSerArgLeuAspGlySerLeuSerV
 alProAsnLeuGlnAsnTrpAsnAlaGluLeuAsnGlyThrPheAspArgGlnThrValAlaAlaLysPheArgTy
 rThrHisGluAspAlaProHisLeuGluAlaAlaValAlaLeuGlnLysLeuAsnLeuThrProTyrLeuAspAsp
 ValArgGlnGlnAsnGlyLysIlePheProAspThrLeuAlaLysLeuSerGlyAspIleGluAlaHisLeuLysI
 leGlyLysValGlnLeuProGlyLeuGlnLeuAspAspMetGluThrTyrLeuHisAlaAspLysGlyHisIleAl
 aLeuSerArgPheLysSerGlyLeuTyrGlyGlyHisThrGluGlyGlyIleSerIleAlaAsnThrArgProAla
 ThrTyrArgLeuGlnGlnAsnAlaSerAsnIleGlnIleGlnProLeuLeuGlnAspLeuPheGlyPheHisSerP
 heSerGlyAsnGlyAspAlaValIleAspLeuThrAlaGlyGlyGluThrArgLysGluLeuIleArgSerLeuG
 lnGlySerLeuSerLeuAsnIleSerAsnGlyAlaTrpHisGlyIleAspMetAspAsnIleLeuLysAsnGlyIle
 SerGlyLysThrAlaAspAsnAlaAlaProSerThrProPheHisArgPheThrLeuAsnSerGluIleSerAspG
 lyIleSerArgHisIleAspThrGluLeuPheSerAspSerLeuTyrValThrSerAsnGlyTyrThrAsnLeuAs
 pThrGlnGluLeuSerGluAspValLeuIleArgAsnAlaValHisProLysAsnLysProIleProLeuLysIle
 ThrGlyThrValAspLysProSerIleThrValAspTyrGlyArgLeuThrGlyGlyIleAsnSerArgLysGluL
 ysGlnLysIleLeuGluAspThrLeuLeuGluGlnTrpGlnTrpLeuLysProLysGluPro-704

AMPHI Regions - AMPHI

1-MetPheGlyAlaValLeuArgIleAspAlaAspCysLeuGlnIleIleValAlaCysLysLeuPheGlnIleValAlaTyrGlyPheAlaAlaLeuValGluGlyGluPheHisGluPheGlyGluMetLeuGluIleValArgLeuAlaAspThrValPheHisArgAsnHisAlaAspAspGlyArgIleHisPheArgArgGlyValGluArgPheGlyArgHisValAsnGlnHisPheHisIleGluGluIleLeuGlnHisHisAlaGlnAlaValValAlaPheArgArgGlyAsnHisThrIleAspHisPhePheLeuGlnHisLysValHisIleAspAspIleValArgHisLeuArgGlnLeuGluGlnLysArgArgGlyAsnValValGlyGlnValAlaAspAspPheLeuPheAlaCysAspAlaValGluIleLysLeuGlnTyrIleAlaPheValAsnHisGlnPheIleArgLysArgGlnArgPheGlnThrAlaTyrAspValAlaValAspPheAspAsnValGlnAlaValGlnLeuPheArgGlnArgPheGlyAsnArgArgGlnThrArgThrAspPheAsnHisAspIleIleArgLeuArgAlaHisGlyValAspAsnIleAlaAspAsnProArgValLeuGlnLysIleLeuProGluThrLeuAlaGlyPheValPhePheHisArgValSerPheSerValGluThrProProPheArgAlaValGluSerAspSerIleTrpGluGlyArgAsnSerPheGlnIleArgThrAlaHisArgAlaValLeuTyrValSerSerCysValLeuLysHisLysCysValTyrSerIleArgLeuMetSerAlaLeu-298

Antigenic Index - Jameson-Wolf

1-MetPheGlyAlaValLeuArgIleAspAlaAspCysLeuGlnIleIleValAlaCysLysLeuPheGlnIleValAlaTyrGlyPheAlaAlaLeuValGluGlyGluPheHisGluPheGlyGluMetLeuGluIleValArgLeuAlaAspThrValPheHisArgAsnHisAlaAspAspGlyArgIleHisPheArgArgGlyValGluArgPheGlyArgHisValAsnGlnHisPheHisIleGluGluIleLeuGlnHisHisAlaGlnAlaValValAlaPheArgArgGlyAsnHisThrIleAspHisPhePheLeuGlnHisLysValHisIleAspAspIleValArgHisLeuArgGlnLeuGluGlnLysArgArgGlyAsnValValGlyGlnValAlaAspAspPheLeuPheAlaCysAspAlaValGluIleLysLeuGlnTyrIleAlaPheValAsnHisGlnPheIleArgLysArgGlnArgPheGlnThrAlaTyrAspValAlaValAspPheAspAsnValGlnAlaValGlnLeuPheArgGlnArgPheGlyAsnArgArgGlnThrArgThrAspPheAsnHisAspIleIleArgLeuArgAlaHisGlyValAspAsnIleAlaAspAsnProArgValLeuGlnLysIleLeuProGluThrLeuAlaGlyPheValPhePheHisArgValSerPheSerValGluThrProProPheArgAlaValGluSerAspSerIleTrpGluGlyArgAsnSerPheGlnIleArgThrAlaHisArgAlaValLeuTyrValSerSerCysValLeuLysHisLysCysValTyrSerIleArgLeuMetSerAlaLeu-298

Hydrophilic Regions - Hopp-Woods

1-MetPheGlyAlaValLeuArgIleAspAlaAspCysLeuGlnIleIleValAlaCysLysLeuPheGlnIleValAlaTyrGlyPheAlaAlaLeuValGluGlyGluPheHisGluPheGlyGluMetLeuGluIleValArgLeuAlaAspThrValPheHisArgAsnHisAlaAspAspGlyArgIleHisPheArgArgGlyValGluArgPheGlyArgHisValAsnGlnHisPheHisIleGluGluIleLeuGlnHisHisAlaGlnAlaValValAlaPheArgArgGlyAsnHisThrIleAspHisPhePheLeuGlnHisLysValHisIleAspAspIleValArgHisLeuArgGlnLeuGluGlnLysArgArgGlyAsnValValGlyGlnValAlaAspAspPheLeuPheAlaCysAspAlaValGluIleLysLeuGlnTyrIleAlaPheValAsnHisGlnPheIleArgLysArgGlnArgPheGlnThrAlaTyrAspValAlaValAspPheAspAsnValGlnAlaValGlnLeuPheArgGlnArgPheGlyAsnArgArgGlnThrArgThrAspPheAsnHisAspIleIleArgLeuArgAlaHisGlyValAspAsnIleAlaAspAsnProArgValLeuGlnLysIleLeuProGluThrLeuAlaGlyPheValPhePheHisArgValSerPheSerValGluThrProProPheArgAlaValGluSerAspSerIleTrpGluGlyArgAsnSerPheGlnIleArgThrAlaHisArgAlaValLeuTyrValSerSerCysValLeuLysHisLysCysValTyrSerIleArgLeuMetSerAlaLeu-298

a774

AMPHI Regions - AMPHI

1-MetLysThrLysLeuProLeuPheIleIleTrpLeuSerValSerAlaAlaCysSerSerProValSerArgAsnIleGlnAspMetArgLeuGluProGlnAlaGluAlaGlySerSerAspAlaIleProTyrProValProThrLeuGlnAspArgLeuAspTyrLeuGluGlyThrLeuValArgLeuSerAsnGluValGluThrLeuAsnGlyLysValLysAlaLeuGluHisAlaLysThrHisProSerSerArgAlaTyrValGlnLysLeuAspAspArgLysLeuLysGluHisTyrLeuAsnThrGluGlyGlySerAlaSerAlaHisThrValGluThrAlaGlnAsnLeuTyrAsnGlnAlaLeuLysHisTyrLysSerGlyArgPheSerAlaAlaAlaAspGlyLysGlyAlaAspGlyGlyAspGlyGlySerIleAlaGlnArgSerMetTyrLeuLeuGlnSerArgAlaArgMetGlyAsnCysGluSerValIleGluIleGlyGlyArgTyrAlaAsnArgPheLysAspSerProThrAlaProGluAlaMetPheLysIleGlyGluCysGlnTyrArgLeuGlnGlnLysAspIleAlaArgAlaThrTrpArgSerLeuIleGlnThrTyrProGlySerProAlaAlaLysArgAlaAlaAlaValArgLysArg-238

Antigenic Index - Jameson-Wolf

-623-

1-MetLysThrLysLeuProLeuPheIleIleTrpLeuSerValSerAlaAlaCysSerSerProValSerArgAsnIleGlnAspMetArgLeuGluProGlnAlaGluAlaGlySerSerAspAlaIleProTyrProValProThrLeuGlnAspArgLeuAspTyrLeuGluGlyThrLeuValArgLeuSerAsnGluValGluThrLeuAsnGlyLysValLysAlaLeuGluHisAlaLysThrHisProSerSerArgAlaTyrValGlnLysLeuAspAspArgLysLeuLysGluHisTyrLeuAsnThrGluGlyGlySerAlaSerAlaHisThrValGluThrAlaGlnAsnLeuTyrAsnGlnAlaLeuLysHisTyrLysSerGlyArgPheSerAlaAlaAlaSerLeuLeuLysGlyAlaAspGlyGlyAspGlyGlySerIleAlaGlnArgSerMetTyrLeuLeuGlnSerArgAlaArgMetGlyAsnCysGluSerValIleGluIleGlyGlyArgTyrAlaAsnArgPheLysAspSerProThrAlaProGluAlaMetPheLysIleGlyGluCysGlnTyrArgLeuGlnGlnLysAspIleAlaArgAlaThrTrpArgSerLeuIleGlnThrTyrProGlySerProAlaAlaLysArgAlaAlaAlaValArgLysArg-238

Hydrophilic Regions - Hopp-Woods

1-MetLysThrLysLeuProLeuPheIleIleTrpLeuSerValSerAlaAlaCysSerSerProValSerArgAsnIleGlnAspMetArgLeuGluProGlnAlaGluAlaGlySerSerAspAlaIleProTyrProValProThrLeuGlnAspArgLeuAspTyrLeuGluGlyThrLeuValArgLeuSerAsnGluValGluThrLeuAsnGlyLysValLysAlaLeuGluHisAlaLysThrHisProSerSerArgAlaTyrValGlnLysLeuAspAspArgLysLeuLysGluHisTyrLeuAsnThrGluGlyGlySerAlaSerAlaHisThrValGluThrAlaGlnAsnLeuTyrAsnGlnAlaLeuLysHisTyrLysSerGlyArgPheSerAlaAlaAlaSerLeuLeuLysGlyAlaAspGlyGlyAspGlyGlySerIleAlaGlnArgSerMetTyrLeuLeuGlnSerArgAlaArgMetGlyAsnCysGluSerValIleGluIleGlyGlyArgTyrAlaAsnArgPheLysAspSerProThrAlaProGluAlaMetPheLysIleGlyGluCysGlnTyrArgLeuGlnGlnLysAspIleAlaArgAlaThrTrpArgSerLeuIleGlnThrTyrProGlySerProAlaAlaLysArgAlaAlaAlaValArgLysArg-238

a790

AMPHI Regions - AMPHI

10-GluAlaAlaAlaGluVal-15
44-GlyAsnGlnThrCysSerArgTyrSerAsn-53
89-LysGlnAlaValThr-93
103-ThrGlnAlaTyrAsnGluMetThrLysSerVal-113
166-PheAlaArgThrGlyLysLeu-172
174-GlySerPheAspLeuPheAlaSerVal-182
253-ProSerGluAlaLeuAsp-258
290-ThrAlaProAspValTrpThrVal-297
320-PheLeuArgPheTrpGlnAlaThrArgGlyIle-330

Antigenic Index - Jameson-Wolf

1-MetAlaArgArgSerLysThrPheGluGluAlaAlaGluValGluGluArgPheGlyHisArgGlyIleLys-25
30-GluGlyThrAlaLysProCysVal-37
39-AsnCysProLysHisGlyAsnGlnThrCysSerArgTyrSer-52
57-GlySerSerTrpGlyCysProSerCysGlyAsnGluGlnAlaAla-71
77-ThrLeuArgLysAsnHisIle-83
95-MetThrLysGlnGluArgIleThr-102
123-AspValGlnGlyAspThrThrIle-130
134-HisThrHisThrHisAsnHisSerAspAlaAspGlyLysAlaLeuSer-149
152-LeuThrProArgProLeuLeuSerAspArgGlnAla-163
167-AlaArgThrGlyLysLeuThrGly-174
194-MetProAspThrSerMet-199
201-ProValIleGluLysGlyAsp-207
213-ProArgMetArgProAlaAspGluAspIleVal-223
227-LeuSerAspLysArgLeuVal-233
248-TyrGlnThrGlyArgProSerGluAlaLeuAspLeuProGluGly-262
270-LeuGluSerLysAsnGluLysCysProProHisArgGlnGluGlyVal-285
301-SerAlaSerLysThrSerCysThrArgProThrAlaAlaArgLysSerAla-317
326-AlaThrArgGlyIleProLysThrArgSerTrpArgAsnProAsnAsnAlaCys-343

Hydrophilic Regions - Hopp-Woods

1-MetAlaArgArgSerLysThrPheGluGluAlaAlaAlaGluValGluGluArgPheGlyHisArgGlyIleLys-25
 65-CysGlyAsnGluGlnAlaAla-71
 77-ThrLeuArgLysAsnHisIle-83
 96-ThrLysGlnGluArgIleThr-102
 139-AsnHisSerAspAlaAspGlyLysAlaLeuSer-149
 157-LeuLeuSerAspArgGlnAla-163
 168-ArgThrGlyLysLeu-172
 202-ValIleGluLysGlyAsp-207
 213-ProArgMetArgProAlaAspGluAspIleVal-223
 227-LeuSerAspLysArgLeuVal-233
 251-GlyArgProSerGluAlaLeuAspLeuProGlu-261
 270-LeuGluSerLysAsnGlyLeu-276
 280-HisArgGlnGluGlyVal-285
 301-SerAlaSerLysThrSerCysThrArgProThrAlaAlaArgLysSerAla-317
 328-ArgGlyIleProLysThrArgSerTrpArgAsn-338

a900-2**AMPHI Regions - AMPHI**

9-ValValAlaPheAlaArgPhe-15
 36-ValGlyLysHisPheArgLysPheCysArgPheArg-47
 62-ValGlyLeuLeuArgLeuAlaArgLeuPheHisIleGlyAspAspPheValAspArgPheLeuGlyPhePhe-85
 120-GlnCysGluGluPheProGluAlaValValGluAla-131
 198-HisGlnThrLeuGlyGlyAspAlaGly-206
 210-ValGlnPheHisHisPheGly-216
 233-GlyLysProSerGlyGlyAsnGlyLeuGlyGlyLeuValAsnHisLeuArgLeuValAla-252
 268-IleArgValLeuArgArgAlaAspGlyGly-277
 279-AspSerThrAspValValAlaGlnMet-287

Antigenic Index - Jameson-Wolf

1-LeuArgArgValGlyGlyGln-7
 20-ValAspPheArgArgGlnLys-26
 38-LysHisPheArgLysPheCysArgPheArgArgGlyGluSer-52

56-PheLysGlnArgAla-60
 74-GlyAspAspPheValAspArg-80
 88-PheProLysArgAsnGlyValAla-95
 105-GlnThrAsnGlnGlu-109
 118-PheGlyGlnCysGluGluPhePro-125
 155-GluHisGluAsnValGlySerHisGluAspArgValAla-167
 201-LeuGlyGlyAspAlaGlyGlnAsnPro-209
 229-ValGluSerAlaGlyLysProSerGlyGlyAsnGly-240
 252-AlaPheAspAspThrValValIleGlyGluGluGluGlyPheGly-267
 270-ValLeuArgArgAlaAspGlyGlyAlaAspSerThrAsp-282
 285-AlaGlnMetArgAspAlaGlyGly-292
 311-MetProSerGluArgGluLysAspAlaProIle-321
 323-ProAspLeuProProThrSerSerArgGlnGlnThr-334

Hydrophilic Regions - Hopp-Woods

1-LeuArgArgValGly-5
 20-ValAspPheArgArgGlnLys-26

-625-

38-LysHisPheArgLysPheCysArgPheArgArgArgGlyGluSer-52

89-ProLysArgAsnGly-93

120-GlnCysGluGluPhePro-125

155-GluHisGluAsnValGlySerHisGluAspArgValAla-167

201-LeuGlyGlyAspAlaGlyGln-207

231-SerAlaGlyLysProSerGly-237

257-ValValIleGlyGluGluGluGlyPheGly-267

270-ValLeuArgArgAlaAspGlyGlyAlaAspSerThrAsp-282

285-AlaGlnMetArgAspAlaGly-291

311-MetProSerGluArgGluLysAspAlaProIle-321

326-ProProThrSerSerArgGlnGln-333

a901**AMPHI Regions - AMPHI**

20-GlyLeuPheThrValLeuGly-26

55-ValSerLeuThrGluIlePheSerLysSer-64

66-GluAlaPheAlaGluIleTyrAsp-73

84-AlaPheLeuAlaGlyMetGlyGlyIleAlaLeuIle-95

97-ArgLeuValProAsnProHisGluThrLeuAsp-107

124-ValGlyMetMetAlaAlaPhe-130

136-AsnPheProGluGlyLeuAlaThrPhePheAlaThrLeuGlu-149

164-HisAsnIleProGluGlyIleSer-171

190-CysLeuLeuSerGlyLeuAlaGluProLeuGlyAlaAla-202

217-PheGlySerValPheGlyValIleAlaGlyValMet-228

243-TyrSerAspGlyHisGlu-248

Antigenic Index - Jameson-Wolf

1-MetProAspPheSerMet-6

33-SerLysThrProAsnProArgVal-40

61-PheSerLysSerSerGluAlaPhe-68

71-IleTyrAspLysAspHisAla-77

98-LeuValProAsnProHisGluThrLeuAspAlaGlnAspProSerPheGlnGluSerLysArgArgHisIleAla-122

136-AsnPheProGluGly-140

179-AlaThrArgSerArgLysLysThr-186

193-SerGlyLeuAlaGluProLeuGly-200

235-GluLeuLeuProAlaAlaLysArgTyrSerAspGlyHisGluThr-249

Hydrophilic Regions - Hopp-Woods

61-PheSerLysSerSerGluAlaPhe-68

71-IleTyrAspLysAspHisAla-77

102-ProHisGluThrLeuAspAlaGlnAspProSerPheGlnGluSerLysArgArgHisIleAla-122

180-ThrArgSerArgLysLysThr-186

235-GluLeuLeuProAlaAlaLysArgTyrSerAspGlyHisGlu-248

a902**AMPHI Regions - AMPHI**

1-LeuHisPheGlnArgIleIleLysCysSerGluGlyIleTrpAlaValGlyAlaArgProThrValGlyPhePheGlyLysSerPheLysIleThrCysLysHisValValLeuArgArgThrValGlnAlaValAspPheThrThrCysLeuPheAlaValGlyHisPheValAspValProAlaTyrValPheAlaCysAspAlaHisThrGlyGlyValAlaValLysArgValHisGlySerAspValValGlnAsnSerGlyGlyThrPheCysGlnThrGlnGlyArgArgAsnThrPheGlyValMetPheGlnIleAlaGluGluProArgSerAlaLeuArgAlaAlaProTyrHisAsnAlaValCysGlyGlyLeuPheGluAspGlyLeuGlyPheLeuArgArgGlyAsnValAlaValAspProAspArgAspV

alGlnThrAlaPheGlyPheGlyAsnGlnValValSerArgPheAlaPheValHisLeuArgAlaArgAlaSerVal
 AspGlyLysGlyGlyAsnAlaAlaIlePheGlyAspPheGlyAspAspGlyGlnValLeuMetValValValPro
 ThrGlnThrGlyPheGluGlyAsnGlyTyrAlaArgArgPheAspHisArgLeuGlnAsnGlyGlyAsnGlnArgL
 euValLeuHisGlnArgAlaThrGlyLeuAspIleAlaAspPhePheSerGlyThrAlaHisValAspAspLys
 sLeuArgProLysAlaAspValValThrArgGlyIleArgHisLeuLeuArgIleAlaSerGlyAsnLeuHisGly
 AsnAsnAlaAlaPheIleGlyLysIleAlaAlaValGlnGlyPheSerSerIleSerGluArgArgValAlaGlyG
 lnHisPheAlaHisArgProThrCysAlaLysIleSerAlaLysSerAlaGluArgPheValGlyAsnAlaArgHis
 sArgArgLysCysAspGlyValValAspLysIleAlaAlaAspValHisAsnGlySerAlaPheGlnLysSerThr
 ProLeuTyrIlePhe-359

Antigenic Index - Jameson-Wolf

1-LeuHisPheGlnArgIleIleLysCysSerGluGlyIleTrpAlaValGlyAlaArgProThrValGlyPhePh
 eGlyLysSerPheLysIleThrCysLysHisValValLeuArgArgThrValGlnAlaValAspPheThrThr
 CysLeuPheAlaValGlyHisPheValAspValProAlaTyrValPheAlaCysAspAlaHisThrGlyGlyValA
 laValLysArgValHisGlySerAspValValGlnAsnSerGlyGlyThrPheCysGlnThrGlnGlyArgArgAs
 nThrValPheGlyValMetPheGlnIleAlaGluGluProArgSerAlaLeuArgAlaAlaProTyrHisAsnAla
 ValCysGlyGlyLeuPheGluAspGlyLeuGlyPheLeuArgArgGlyAsnValAlaValAspProAspArgAspV
 alGlnThrAlaPheGlyPheGlyAsnGlnValValSerArgPheAlaPheValHisLeuArgAlaArgAlaGlyL
 aspGlyLysGlyGlyAsnAlaAlaIlePheGlyAspPheGlyAspAspGlyGlnValLeuMetValValValPro
 ThrGlnThrGlyPheGluGlyAsnGlyTyrAlaArgArgPheAspHisArgLeuGlnAsnGlyGlyAsnGlnArgL
 euValLeuHisGlnArgAlaThrGlyLeuAspIleAlaAspPhePheSerGlyThrAlaHisValAspValAspLys
 sLeuArgProLysAlaAspValValThrArgGlyIleArgHisLeuLeuArgIleAlaSerGlyAsnLeuHisGly
 AsnAsnAlaAlaPheIleGlyLysIleAlaAlaValGlnGlyPheSerSerIleSerGluArgArgValAlaGlyG
 lnHisPheAlaHisArgProThrCysAlaLysIleSerAlaLysSerAlaGluArgPheValGlyAsnAlaArgHis
 sArgArgLysCysAspGlyValValAspLysIleAlaAlaAspValHisAsnGlySerAlaPheGlnLysSerThr
 ProLeuTyrIlePhe-359

Hydrophilic Regions - Hopp-Woods

1-LeuHisPheGlnArgIleIleLysCysSerGluGlyIleTrpAlaValGlyAlaArgProThrValGlyPhePh
 eGlyLysSerPheLysIleThrCysLysHisValValLeuArgArgThrValGlnAlaValAspPheThrThr
 CysLeuPheAlaValGlyHisPheValAspValProAlaTyrValPheAlaCysAspAlaHisThrGlyGlyValA
 laValLysArgValHisGlySerAspValValGlnAsnSerGlyGlyThrPheCysGlnThrGlnGlyArgArgAs
 nThrValPheGlyValMetPheGlnIleAlaGluGluProArgSerAlaLeuArgAlaAlaProTyrHisAsnAla
 ValCysGlyGlyLeuPheGluAspGlyLeuGlyPheLeuArgArgGlyAsnValAlaValAspProAspArgAspV
 alGlnThrAlaPheGlyPheGlyAsnGlnValValSerArgPheAlaPheValHisLeuArgAlaArgAlaSerVa
 lAspGlyLysGlyGlyAsnAlaAlaIlePheGlyAspPheGlyAspAspGlyGlnValLeuMetValValValPro
 ThrGlnThrGlyPheGluGlyAsnGlyTyrAlaArgArgPheAspHisArgLeuGlnAsnGlyGlyAsnGlnArgL
 euValLeuHisGlnArgAlaThrGlyLeuAspIleAlaAspPhePheSerGlyThrAlaHisValAspValAspLys
 sLeuArgProLysAlaAspValValThrArgGlyIleArgHisLeuLeuArgIleAlaSerGlyAsnLeuHisGly
 AsnAsnAlaAlaPheIleGlyLysIleAlaAlaValGlnGlyPheSerSerIleSerGluArgArgValAlaGlyG
 lnHisPheAlaHisArgProThrCysAlaLysIleSerAlaLysSerAlaGluArgPheValGlyAsnAlaArgHis
 sArgArgLysCysAspGlyValValAspLysIleAlaAlaAspValHisAsnGlySerAlaPheGlnLysSerThr
 ProLeuTyrIlePhe-359

a903-1

AMPHI Regions - AMPHI

1-MetLysPhePheProAlaProCysLeuLeuValIleLeuAlaValIleProLeuLysThrLeuAlaAlaAspG
 LuAsnAspAlaGluLeuIleArgSerMetGlnArgGlnGlnHisIleAspAlaGluLeuLeuThrAspAlaAsnVal
 ArgPheGluGlnProLeuGluLysAsnAsnTyrValLeuSerGluAspGluThrProCysThrArgValAsnTyrI
 leSerLeuAspAspLysThrAlaArgLysPheSerPheLeuProSerValLeuLysGlyThrAlaPhePheLysTh
 rGlyMetCysLeuGlySerAsnAsnLeuSerArgLeuGlnLysAlaAlaGlnGlnIleLeuIleValArgGlyTyr
 LeuThrSerGlnAlaIleIleGlnProGlnAsnMetAspSerGlyIleLeuLysLeuArgValSerAlaGlyGluI
 leGlyAspIleArgTyrGluGluLysArgAspGlyLysSerAlaGluGlySerIleSerAlaPheAsnAsnLysPh
 eProLeuTyrArgAsnLysIleLeuAsnLeuArgAspValGluGlnGlyLeuGluAsnLeuArgArgLeuProSer
 valLysThrAspIleGlnIleIleProSerGluGluGlyLysSerAspLeuGlnIleLysTrpGlnGlnAsnL
 ysProIleArgPheSerIleGlyIleAspAspAlaGlyGlyLysThrThrGlyLysTyrGlnGlyAsnValAlaLe

uSerPheAspAsnProLeuGlyLeuSerAspLeuPheTyrValSerTyrGlyArgGlyLeuValHisLysThrAsp
 LeuThrAspAlaThrGlyThrGluThrGluSerGlySerArgSerTyrSerValHisTyrSerValProValLysL
 ysTrpLeuPheSerPheAsnHisAsnGlyHisArgTyrHisGluAlaThrGluGlyTyrSerValAsnTyrAspTy
 rAsnGlyLysGlnTyrGlnSerSerLeuAlaAlaGluArgMetLeuTrpArgAsnArgPheHisLysThrSerVal
 GlyMetLysLeuTrpThrArgGlnThrTyrLysTyrIleAspAspAlaGluIleGluValGlnArgArgSerA
 laGlyTrpGluAlaGluLeuArgHisArgAlaTyrLeuAsnArgTrpGlnLeuAspGlyLysLeuSerTyrLysAr
 gGlyThrGlyMetArgGlnSerMetProAlaProGluGluAsnGlyGlyGlyThrIleProGlyThrSerArgMet
 LysIleIleThrAlaGlyLeuAspAlaAlaAlaProPheMetLeuGlyLysGlnGlnPheThrAlaThrAlaI
 leGlnAlaGlnTrpAsnLysThrProLeuValAlaGlnAspLysLeuSerIleGlySerArgTyrThrValArgG
 lYpHeAspGlyGluGlnSerLeuPheGlyGluArgGlyPheTyrTrpGlnAsnThrLeuThrTrpTyrPheHisPr
 oAsnHisGlnPheTyrLeuGlyAlaAspTyrGlyArgValSerGlyGluSerAlaGlnTyrValSerGlyLysGlnL
 euMetGlyAlaValValGlyPheArgGlyGlyHisLysValGlyGlyMetPheAlaTyrAspLeuPheAlaGlyLy
 sProLeuHisLysProLysGlyPheGlnThrThrAsnThrValTyrGlyPheAsnLeuAsnTyrSerPhe-580

Antigenic Index - Jameson-Wolf

1-MetLysPhePheProAlaProCysLeuLeuValIleLeuAlaValIleProLeuLysThrLeuAlaAlaAspGl
 uAsnAspAlaGluLeuIleArgSerMetGlnArgGlnGlnHisIleAspAlaGluLeuLeuThrAspAlaAsnVal
 ArgPheGluGlnProLeuGluLysAsnAsnTyrValLeuSerGluAspGluThrProCysThrArgValAsnTyrI
 leSerLeuAspAspLysThrAlaArgLysPheSerPheLeuProSerValLeuMetLysGluThrAlaPheLysTh
 rGlyMetCysLeuGlySerAsnAsnLeuSerArgLeuGlnLysAlaAlaGlnGlnIleLeuIleValArgGlyTyr
 LeuThrSerGlnAlaIleIleGlnProGlnAsnMetAspSerGlyIleLeuLysLeuArgValSerAlaGlyGluI
 leGlyAspIleArgTyrGluGluLysArgAspGlyLysSerAlaGluGlySerIleSerAlaPheAsnLysPhe
 eProLeuTyrArgAsnLysIleLeuAsnLeuArgAspValGluGlnGlyLeuGluAsnLeuArgArgLeuProSer
 ValLysThrAspIleGlnIleIleProSerGluGluGluGlyLysSerAspLeuGlnIleLysTrpGlnGlnAsnL
 ysProIleArgPheSerIleGlyIleAspAspAlaGlyGlyLysThrThrGlyLysTyrGlnGlyAsnValAlaIe
 uSerPheAspAsnProLeuGlyLeuSerAspLeuPheTyrValSerTyrGlyArgGlyLeuValHisLysThrAsp
 LeuThrAspAlaThrGlyThrGluThrGluSerGlySerArgSerTyrSerValHisTyrSerValProValLysL
 ysTrpLeuPheSerPheAsnHisAsnGlyHisArgTyrHisGluAlaThrGluGlyTyrSerValAsnTyrAspTy
 rAsnGlyLysGlnTyrGlnSerSerLeuAlaAlaGluArgMetLeuTrpArgAsnArgPheHisLysThrSerVal
 GlyMetLysLeuTrpThrArgGlnThrTyrLysTyrIleAspAspAlaGluIleGluValGlnArgArgSerA
 laGlyTrpGluAlaGluLeuArgHisArgAlaTyrLeuAsnArgTrpGlnLeuAspGlyLysLeuSerTyrLysAr
 gGlyThrGlyMetArgGlnSerMetProAlaProGluGluAsnGlyGlyGlyThrIleProGlyThrSerArgMet
 LysIleIleThrAlaGlyLeuAspAlaAlaAlaProPheMetLeuGlyLysGlnGlnPhePheTyrAlaThrAlaI
 leGlnAlaGlnTrpAsnLysThrProLeuValAlaGlnAspLysLeuSerIleGlySerArgTyrThrValArgG
 lYpHeAspGlyGluGlnSerLeuPheGlyGluArgGlyPheTyrTrpGlnAsnThrLeuThrTrpTyrPheHisPr
 oAsnHisGlnPheTyrLeuGlyAlaAspTyrGlyArgValSerGlyGluSerAlaGlnTyrValSerGlyLysGlnL
 euMetGlyAlaValValGlyPheArgGlyGlyHisLysValGlyGlyMetPheAlaTyrAspLeuPheAlaGlyLy
 sProLeuHisLysProLysGlyPheGlnThrThrAsnThrValTyrGlyPheAsnLeuAsnTyrSerPhe-580

Hydrophilic Regions - Hopp-Woods

1-MetLysPhePheProAlaProCysLeuLeuValIleLeuAlaValIleProLeuLysThrLeuAlaAlaAspGl
 uAsnAspAlaGluLeuIleArgSerMetGlnArgGlnGlnHisIleAspAlaGluLeuLeuThrAspAlaAsnVal
 ArgPheGluGlnProLeuGluLysAsnAsnTyrValLeuSerGluAspGluThrProCysThrArgValAsnTyrI
 leSerLeuAspAspLysThrAlaArgLysPheSerPheLeuProSerValLeuMetLysGluThrAlaPheLysTh
 rGlyMetCysLeuGlySerAsnAsnLeuSerArgLeuGlnLysAlaAlaGlnGlnIleLeuIleValArgGlyTyr
 LeuThrSerGlnAlaIleIleGlnProGlnAsnMetAspSerGlyIleLeuLysLeuArgValSerAlaGlyGluI
 leGlyAspIleArgTyrGluGluLysArgAspGlyLysSerAlaGluGlySerIleSerAlaPheAsnLysPhe
 eProLeuTyrArgAsnLysIleLeuAsnLeuArgAspValGluGlnGlyLeuGluAsnLeuArgArgLeuProSer
 ValLysThrAspIleGlnIleIleProSerGluGluGluGlyLysSerAspLeuGlnIleLysTrpGlnGlnAsnL
 ysProIleArgPheSerIleGlyIleAspAspAlaGlyGlyLysThrThrGlyLysTyrGlnGlyAsnValAlaIe
 uSerPheAspAsnProLeuGlyLeuSerAspLeuPheTyrValSerTyrGlyArgGlyLeuValHisLysThrAsp
 LeuThrAspAlaThrGlyThrGluThrGluSerGlySerArgSerTyrSerValHisTyrSerValProValLysL
 ysTrpLeuPheSerPheAsnHisAsnGlyHisArgTyrHisGluAlaThrGluGlyTyrSerValAsnTyrAspTy
 rAsnGlyLysGlnTyrGlnSerSerLeuAlaAlaGluArgMetLeuTrpArgAsnArgPheHisLysThrSerVal
 GlyMetLysLeuTrpThrArgGlnThrTyrLysTyrIleAspAspAlaGluIleGluValGlnArgArgSerA

-628-

laGlyTrpGluAlaGluLeuArgHisArgAlaTyrLeuAsnArgTrpGlnLeuAspGlyLysLeuSerTyrLysArgGlyThrGlyMetArgGlnSerMetProAlaProGluGluAsnGlyGlyGlyThrIleProGlyThrSerArgMetLysIleIleThrAlaGlyLeuAspAlaAlaProPheMetLeuGlyLysGlnGlnPhePheTyrAlaThrAlaIleGlnAlaGlyThrAsnLysThrProLeuValAlaGlnAspLysLeuSerIleGlySerArgTyrThrValArgGlyPheAspGlyGluGlnSerLeuPheGlyGluArgGlyPheTyrTrpGlnAsnThrLeuThrTyrPheHisProAsnHisGlnPheTyrLeuGlyAlaAspTyrGlyArgValSerGlyGluSerAlaGlnTyrValSerGlyLysGlnLeuMetGlyAlaValValGlyPheArgGlyGlyHisLysValIGlyGlyMetPheAlaTyrAspLeuPheAlaGlyLysProLeuHisLysProLysGlyPheGlnThrThrAsnThrValTyrGlyPheAsnLeuAsnTyrSerPhe-580

a904

AMPHI Regions - AMPHI

1-MetMetGlnHisAsnArgPhePheAlaValGlyAlaGlyGlyAspAspGlyAspArgArgThrAlaAspPhePheAsnProPheGlnIleCysPheGlyIleGlyArgCysValValAlaPheHisAlaGluSerGlyPheAlaProThrGlyHisGlyPheValAsnArgLeuAlaGlyPheTyrArgIleArgAlaAlaArgGlnAspValGlyPheAlaValalGlyGlnPheValAlaAspAlaAspIleAspGlyPheAsnAlaValHisTyrIleGluPheGlyAsnThrHisThrgLyAsnAlaValAspLeuAspGlyAlaPheGlnGlyGlyGlyIleLysProAlaAlaAlaCysAlaSerGlyTyrArgThrGluPheValSerAlaPheCysGlnThrCysSerAspPheValGluGlnPheGlyArgGluArgAlaArgThrAspAlaArgGlyIleGlyPheAspAspAlaGlnAsnIleIleGlnHisLeuArgAlaTyrAlaArgAlaCysArgSerArgAlaGlyGluAlaValGlyArgSerAsnGluGlyValSerAlaValAlaAspValGlnGlnArgThrLeuArgAlaPheLysGlnGlnPhePheAlaValPheValPhePheValGlnHisAlaGlyHisValIGlyAsnHisArgArgAsnAlaArgArgAspPhePheAspAsnArgHisHisValPheArgPheHisArgLeuGlyIleValGlnMetGlnLeuAspValIleSerLysAspGlyIleGlnPhePheThrGlnPhePheArgMetGlnGlnIleGlyGlyAlaAsnGlyAlaAlaCysHisPheValPheValGlyArgAlaAspAlaAlaAlaGlyArgAlaAspPheAlaPheAlaAlaArgCysPheSerGlyLeuValGluArgAspValIleArgGlnAspGlnArgAlaGlyArgArgAspPheGlnThrAlaPheAspValPheHisAlaCysArgValGlnLeuValAspPheAlaGlnGlnGlyPheGlyGlyAspAspAsnAlaArgThrAspGluAlaValGlnThrPheMetGlnAspAlaAlaArgAsnGlnAlaGlnAsnGlyPhePheAlaAlaAspAsnGlnGlyMetThrArgIleValAlaAlaLeuGluAlaHisHisAlaSerGlyPhePheArgGlnProValAsnAspPheThrPheThrLeuValAlaProLeuCysAlaAspTyrTyrAsnIlePheSerHisSerHisIleThrXxxArgTyr-435

Antigenic Index - Jameson-Wolf

1-MetMetGlnHisAsnArgPhePheAlaValGlyAlaGlyGlyAspAspGlyAspArgArgThrAlaAspPhePheAsnProPheGlnIleCysPheGlyIleGlyArgCysValValAlaPheHisAlaGluSerGlyPheAlaProThrGlyHisGlyPheValAsnArgLeuAlaGlyPheTyrArgIleArgAlaAlaArgGlnAspValGlyPheAlaValalGlyGlnPheValAlaAspAlaAspIleAspGlyPheAsnAlaValHisTyrIleGluPheGlyAsnThrHisThrgLyAsnAlaValAspLeuAspGlyAlaPheGlnGlyGlyGlyIleLysProAlaAlaAlaCysAlaSerGlyTyrArgThrGluPheValSerAlaPheCysGlnThrCysSerAspPheValGluGlnPheGlyArgGluArgAlaArgThrAspAlaArgGlyIleGlyPheAspAspAlaGlnAsnIleIleGlnHisLeuArgAlaTyrAlaArgAlaCysArgSerArgAlaGlyGluAlaValGlyArgSerAsnGluGlyValSerAlaValAlaAspValGlnGlnArgThrLeuArgAlaPheLysGlnGlnPhePheAlaValPheValPhePheValGlnHisAlaGlyHisValIGlyAsnHisArgArgAsnAlaArgArgAspPhePheAspAsnArgHisHisValPheArgPheHisArgLeuGlyIleValGlnMetGlnLeuAspValIleSerLysAspGlyIleGlnPhePheThrGlnPhePheArgMetGlnGlnIleGlyGlyAlaAsnGlyAlaAlaCysHisPheValPheValGlyArgAlaAspAlaAlaAlaGlyArgAlaAspPheAlaPheAlaAlaArgCysPheSerGlyLeuValGluArgAspValIleArgGlnAspGlnArgAlaGlyArgArgAspPheGlnThrAlaPheAspValPheHisAlaCysArgValGlnLeuValAspPheAlaGlnGlnGlyPheGlyGlyAspAspAsnAlaArgThrAspGluAlaValGlnThrPheMetGlnAspAlaAlaArgAsnGlnAlaGlnAsnGlyPhePheAlaAlaAspAsnGlnGlyMetThrArgIleValAlaAlaLeuGluAlaHisHisAlaSerGlyPhePheArgGlnProValAsnAspPheThrPheThrLeuValAlaProLeuCysAlaAspTyrTyrAsnIlePheSerHisSerHisIleThrXxxArgTyr-435

Hydrophilic Regions - Hopp-Woods

1-MetMetGlnHisAsnArgPhePheAlaValGlyAlaGlyGlyAspAspGlyAspArgArgThrAlaAspPhePheAsnProPheGlnIleCysPheGlyIleGlyArgCysValValAlaPheHisAlaGluSerGlyPheAlaProThrGlyHisGlyPheValAsnArgLeuAlaGlyPheTyrArgIleArgAlaAlaArgGlnAspValGlyPheAlaValalGlyGlnPheValAlaAspAlaAspIleAspGlyPheAsnAlaValHisTyrIleGluPheGlyAsnThrHisThrgLyAsnAlaValAspLeuAspGlyAlaPheGlnGlyGlyGlyIleLysProAlaAlaAlaCysAlaSerGly

-629-

TyrArgThrGluPheValSerAlaPheCysGlnThrCysSerAspPheValGluGlnPheGlyArgGluArgAlaA
 rgThrAspAlaArgGlyIleGlyPheAspAspAlaGlnAsnIleIleGlnHisLeuArgAlaTyrAlaAArgAlaCy
 sArgSerArgAlaGlyGluAlaValGlyArgSerAsnGluGlyValSerAlaValAlaAspValGlnGlnArgThr
 LeuArgAlaPheLysGlnGlnPhePheAlaValPheValPhePheValGlnHisAlaGlyHisValGlnHisA
 rgArgAsnAlaArgArgAspPhePheAspAsnArgHisHisValPheArgPheHisArgLeuGlyIleValGlnMe
 tLeuGlnLeuAspValValIleSerLysAspGlyIleGlnPhePheThrGlnPhePheArgMetGlnGlnIleGly
 GlyAlaAsnGlyAlaAlaCysHisPheValPheValIleGlyArgAlaAspAlaAlaAlaGlyArgAlaAspPheAlaP
 heAlaAlaArgCysPheSerGlyLeuValGluArgAspValIleArgGlnAspGlnArgAlaGlyArgArgAspPh
 eGlnThrAlaPheAspValPheHisAlaCysArgValGlnLeuValAspPheAlaGlnGlnGlyPheGlyGlyAsp
 AspAsnAlaArgThrAspGluAlaValGlnThrPheMetGlnAspAlaAlaArgAsnGlnAlaGlnAsnGlyPheP
 heAlaAlaAspAsnGlnGlyMetThrArgIleValAlaAlaLeuGluAlaHisHisAlaSerGlyPhePheArgGl
 nProValAsnAspPheThrPheThrLeuValAlaProLeuCysAlaAspTyrTyrAsnIlePheSerHisSerHis
 IleThrXxxArgTyr-435

a907

AMPHI Regions - AMPHI

1-MetLysLysProThrAspThrLeuProValAsnLeuGlnArgArgArgLeuLeuCysAlaAlaGlyAlaLeuLe
 uLeuSerProLeuAlaGlnAlaGlyAlaGlnArgGluGluThrLeuAlaAspAspValAlaSerValMetArgSer
 SerValGlySerIleAsnProArgLeuValPheAspAsnProLysGluGlyGluArgTrpLeuSerAlaMetS
 erAlaArgLeuAlaArgPheValProAspGluGluGluArgArgArgLeuLeuValAsnIleGlnTyrGluSerSe
 rArgAlaGlyLeuAspThrGlnIleValLeuGlyLeuIleGluValGluSerAlaPheArgGlnTyrAlaIleSer
 GlyValGlyAlaArgGlyLeuMetGlnValMetProPheTrpLysAsnTyrIleGlyLysProAlaHisAsnLeuP
 heAspIleArgThrAsnLeuArgTyrGlyCysThrIleLeuArgHisTyrArgAsnLeuGluLysGlyAsnIleVa
 lArgAlaLeuAlaArgPheAsnGlySerLeuGlySerAsnLysTyrProAsnAlaValLeuGlyAlaTrpArgAsn
 ArgTrpGlnTrpArg-207

Antigenic Index - Jameson-Wolf

1-MetLysLysProThrAspThrLeuProValAsnLeuGlnArgArgArgLeuLeuCysAlaAlaGlyAlaLeuLe
 uLeuSerProLeuAlaGlnAlaGlyAlaGlnArgGluGluThrLeuAlaAspAspValAlaSerValMetArgSer
 SerValGlySerIleAsnProArgLeuValPheAspAsnProLysGluGlyGluArgTrpLeuSerAlaMetS
 erAlaArgLeuAlaArgPheValProAspGluGluGluArgArgArgLeuLeuValAsnIleGlnTyrGluSerSe
 rArgAlaGlyLeuAspThrGlnIleValLeuGlyLeuIleGluValGluSerAlaPheArgGlnTyrAlaIleSer
 GlyValGlyAlaArgGlyLeuMetGlnValMetProPheTrpLysAsnTyrIleGlyLysProAlaHisAsnLeuP
 heAspIleArgThrAsnLeuArgTyrGlyCysThrIleLeuArgHisTyrArgAsnLeuGluLysGlyAsnIleVa
 lArgAlaLeuAlaArgPheAsnGlySerLeuGlySerAsnLysTyrProAsnAlaValLeuGlyAlaTrpArgAsn
 ArgTrpGlnTrpArg-207

Hydrophilic Regions - Hopp-Woods

1-MetLysLysProThrAspThrLeuProValAsnLeuGlnArgArgArgLeuLeuCysAlaAlaGlyAlaLeuLe
 uLeuSerProLeuAlaGlnAlaGlyAlaGlnArgGluGluThrLeuAlaAspAspValAlaSerValMetArgSer
 SerValGlySerIleAsnProArgLeuValPheAspAsnProLysGluGlyGluArgTrpLeuSerAlaMetS
 erAlaArgLeuAlaArgPheValProAspGluGluGluArgArgArgLeuLeuValAsnIleGlnTyrGluSerSe
 rArgAlaGlyLeuAspThrGlnIleValLeuGlyLeuIleGluValGluSerAlaPheArgGlnTyrAlaIleSer
 GlyValGlyAlaArgGlyLeuMetGlnValMetProPheTrpLysAsnTyrIleGlyLysProAlaHisAsnLeuP
 heAspIleArgThrAsnLeuArgTyrGlyCysThrIleLeuArgHisTyrArgAsnLeuGluLysGlyAsnIleVa
 lArgAlaLeuAlaArgPheAsnGlySerLeuGlySerAsnLysTyrProAsnAlaValLeuGlyAlaTrpArgAsn
 ArgTrpGlnTrpArg-207

a908

AMPHI Regions - AMPHI

1-MetArgLysSerArgLeuSerGlnTyrLysGlnAsnLysLeuIleGluLeuPheValAlaGlyValThrAlaAr
 gThrAlaAlaGluLeuValGlyValAsnLysAsnThrAlaAlaTyrTyrPheHisArgLeuArgLeuLeuIleTyr
 GlnAsnSerProHisLeuGluMetPheAspGlyGluValGluAlaAspGluSerTyrPheGlyGlyGlnArgLysG
 lyLysArgGlyArgGlyAlaAlaGlyLysValAlaValPheGlyLeuLeuLysArgAsnGlyLysValTyrThrVa
 lThrValProAsnThrGlnThrAlaThrLeuPheProIleIleArgGluGlnValLysProAspSerIleValTyr
 ThrAspCysTyrArgSerTyrAspValLeuAspValArgGluPheSerHisPheSerPheAlaGluThrSerPheS
 erTyrGlnSerGlnHisThrPheCysArgThrThrLysProTyr-166

Antigenic Index - Jameson-Wolf

1-MetArgLysSerArgLeuSerGlnTyrLysGlnAsnLysLeuIleGluLeuPheValAlaGlyValThrAlaArg
 ThrAlaAlaGluLeuValGlyValAsnLysAsnThrAlaAlaTyrTyrPheHisArgLeuArgLeuIleTyr
 GlnAsnSerProHisLeuGluMetPheAspGlyGluValGluAlaAspGluSerTyrPheGlyGlyGlnArgLysG
 lyLysArgGlyArgGlyAlaAlaGlyLysValAlaValPheGlyLeuLeuLysArgAsnGlyLysValTyrThrVa
 lThrValProAsnThrGlnThrAlaThrLeuPheProIleIleArgGluGlnValLysProAspSerIleValTyr
 ThrAspCysTyrArgSerTyrAspValLeuAspValArgGluPheSerHisPheSerPheAlaGluThrSerPheS
 erTyrGlnSerGlnHisThrPheCysArgThrThrLysProTyr-166

Hydrophilic Regions - Hopp-Woods

1-MetArgLysSerArgLeuSerGlnTyrLysGlnAsnLysLeuIleGluLeuPheValAlaGlyValThrAlaArg
 ThrAlaAlaGluLeuValGlyValAsnLysAsnThrAlaAlaTyrTyrPheHisArgLeuArgLeuIleTyr
 GlnAsnSerProHisLeuGluMetPheAspGlyGluValGluAlaAspGluSerTyrPheGlyGlyGlnArgLysG
 lyLysArgGlyArgGlyAlaAlaGlyLysValAlaValPheGlyLeuLeuLysArgAsnGlyLysValTyrThrVa
 lThrValProAsnThrGlnThrAlaThrLeuPheProIleIleArgGluGlnValLysProAspSerIleValTyr
 ThrAspCysTyrArgSerTyrAspValLeuAspValArgGluPheSerHisPheSerPheAlaGluThrSerPheS
 erTyrGlnSerGlnHisThrPheCysArgThrThrLysProTyr-166

a909

AMPHI Regions - AMPHI

71-GlyAsnAsnAlaAspGlu-76

Antigenic Index - Jameson-Wolf

22-ThrTyrGlnAspGlyAsnGlyLysThrAlaValArgGlnLysTyrProAlaGly-39
 45-GlnAspGlySerTyrSerLysAsnMetAsnTyrAsnGlnTyrArgProGluArgHisAla-64
 68-AsnGlnThrGlyAsnAsnAlaAspGluGluHisArgGlnHisTrpGlnLysProLysPheGlnAsnArg-90

Hydrophilic Regions - Hopp-Woods

23-TyrGlnAspGlyAsnGlyLysThrAlaValArgGlnLysTyr-36
 58-TyrArgProGluArgHisAla-64
 72-AsnAsnAlaAspGluGluHisArgGlnHisTrpGln-83
 85-ProLysPheGlnAsnArg-90

a910

AMPHI Regions - AMPHI

22-SerAlaGluArgGlnIle-27
 39-LysAlaValLysMetLeuGlu-45
 58-AspHisTrpGlyLysPro-63
 69-AlaTyrLysAspGlyArg-74

Antigenic Index - Jameson-Wolf

19-AlaGlyAspSerAlaGluArgGlnIleTyr-28
 30-AspProTyrPheGluGlnAsnArgThrLysAlaValLysMetLeuGluGlnArgGlyTyrGln-50
 52-HisAspValAspAlaAspAspHisTrpGly-61
 68-GluAlaTyrLysAspGlyArgGluTyrAsp-77
 83-ProAspLeuLysIleIleLysGluGlnLeuAspArg-94

Hydrophilic Regions - Hopp-Woods

21-AspSerAlaGluArgGlnIleTyr-28
 32-TyrPheGluGlnAsnArgThrLysAlaValLysMetLeuGluGlnArgGly-48
 52-HisAspValAspAlaAspAspHisTrpGly-61
 68-GluAlaTyrLysAspGlyArgGluTyrAsp-77
 86-LysIleIleLysGluGlnLeuAspArg-94

a911

AMPHI Regions - AMPHI

6-LeuGluPheTrpValGlyLeuPhe-13
 43-ValTyrAlaAspPheGlyAspIleGly-51

-631-

97-ValSerAlaGlnIle-101
 118-GlyAspThrGluAsnLeuAla-124
 140-AsnLeuIleGlyLysPheMetThrSerPhe-149

Antigenic Index - Jameson-Wolf

1-MetLysLysAsnIle-5
 35-GlyGlySerAspLysThrTyr-41
 48-GlyAspIleGlyGlyLeuLysValAsnAlaProValLys-60
 74-LeuAspProLysSerTyrGlnAlaArgValArgLeuAspLeuAspGlyLysTyrGlnPheSerSerAspVal-97
 103-ThrSerGlyLeuLeuGly-108
 115-GlnGlnGlyGlyAspThrGluAsn-122
 149-PheAlaGluLysAsnAlaAspGlyGlyAsnAlaGluLysAlaAlaGlu-164

Hydrophilic Regions - Hopp-Woods

1-MetLysLysAsnIle-5
 36-GlySerAspLysThr-40
 74-LeuAspProLysSerTyrGlnAlaArgValArgLeuAspLeuAspGly-89
 116-GlnGlyGlyAspThrGluAsn-122
 149-PheAlaGluLysAsnAlaAspGlyGlyAsnAlaGluLysAlaAlaGlu-164

a912**AMPHI Regions - AMPHI**

24-ProAlaAspAlaValAsnGlnIle-31
 38-ValLeuSerIleLeu-42
 62-PheAspPheGlnArgMetThrAlaLeuAlaValGlyAsnProTrpArgThrAlaSerAspAlaGlnLys-84
 89-LysGluPheGlnThrLeu-94
 169-TyrArgAsnGlnPheGlyGluIleIleLysAlaLys-180

Antigenic Index - Jameson-Wolf

1-MetLysLysSerSer-5
 29-AsnGlnIleArgGlnAsnAlaThrGln-37
 42-LeuLysSerGlyAspAlaAsnThrAlaArgGlnLysAlaGluAla-56
 74-AsnProTrpArgThrAlaSerAspAlaGlnLysGlnAlaLeuAlaLysGluPhe-91
 104-LeuLysLeuLysAsnAlaAsnValAsnValLysAspAsnProIleValAsnLysGlyGlyLysGluIleIleVal-128
 130-AlaGluValGlyValProGlyGlnLysProValAsn-141
 146-ThrTyrGlnSerGlyGlyLysTyrArgThr-155
 169-TyrArgAsnGlnPhe-173
 177-IleLysAlaLysGlyValAspGlyLeuIleAla-187
 189-LeuLysAlaLysAsnGlySerLys-196

Hydrophilic Regions - Hopp-Woods

1-MetLysLysSerSer-5
 31-IleArgGlnAsnAla-35
 43-LysSerGlyAspAlaAsnThrAlaArgGlnLysAlaGluAla-56
 78-ThrAlaSerAspAlaGlnLysGlnAlaLeuAlaLysGluPhe-91
 104-LeuLysLeuLysAsn-108
 110-AsnValAsnValLysAspAsnProIleVal-119
 121-LysGlyGlyLysGluIleIleVal-128
 134-ValProGlyGlnLysProValAsn-141
 177-IleLysAlaLysGlyValAsp-183
 189-LeuLysAlaLysAsnGlySerLys-196

a913**AMPHI Regions - AMPHI**

22-GluThrArgProAlaAspProTyrGluGlyTyrAsnArg-34

-632-

53-ArgGlyTyrArgLysValAlaProLys-61
 66-GlyValSerAsnPhePheAsnAsnLeuCysAspValValSer-79
 107-LeuGlyGlyLeuIleAspIleAlaGlyAla-116
 151-ValArgAspAlaLeuGlyThrGlyIleThrSerValTyrSer-164
 193-AspLeuThrAspSerLeuAspGluAlaAla-202
 238-LeuValGluSerAla-242
 257-SerGluThrGlnAla-261

Antigenic Index - Jameson-Wolf

21-AlaGluThrArgProAlaAspProTyrGluGlyTyrAsn-33
 39-PheAsnAspGlnAlaAspArgTyr-46
 51-AlaAlaArgGlyTyrArgLysValAlaProLysProValArgAla-65
 81-GlySerAsnIleLeu-85
 87-LeuAspIleLysArgAlaSerGluAspLeuVal-97
 117-GlyGlyIleProAspAsnLysAsnThrLeuGlyAsp-128
 132-SerTrpGlyTrpLysAsnSerAsn-139
 149-SerThrValArgAspAlaLeu-155
 163-TyrSerProLysAsnIle-168
 172-ThrProValGlyArgTrpGly-178
 185-ValSerThrArgGluGlyLeuLeuAspLeuThrAspSerLeuAspGluAlaAlaIleAspLysTyrSerTyr
 ThrArgAspLeuTyrMet-214
 216-ValArgAlaArgGlnThrGlyAlaThrProAlaGluGlyThrGluAspAsnIleAspIleAspGluLeuVal
 GluSerAlaGluThrGlyAlaAla-247
 250-AlaValGlnGluAspSerValSerGluThrGlnAlaGluAlaAlaGlyGluAlaGluThrGlnProGlyThr
 GlnProGlyThrGlnPro-279

Hydrophilic Regions - Hopp-Woods

21-AlaGluThrArgProAlaAspProTyrGluGlyTyrAsn-33
 40-AsnAspGlnAlaAsp-44
 53-ArgGlyTyrArgLysValAlaProLysProValArg-64
 87-LeuAspIleLysArgAlaSerGluAspLeuVal-97
 118-GlyIleProAspAsnLysAsnThrLeu-126
 150-ThrValArgAspAlaLeu-155
 186-SerThrArgGluGlyLeuLeuAspLeuThrAspSerLeuAspGluAlaAlaIleAsp-204
 216-ValArgAlaArgGlnThrGly-222
 224-ThrProAlaGluGlyThrGluAspAsnIleAspIleAspGluLeuValGluSerAlaGluThrGlyAlaAla
 -247
 250-AlaValGlnGluAspSerValSerGluThrGlnAlaGluAlaAlaGlyGluAlaGluThrGlnPro-271
a914-2

AMPHI Regions - AMPHI

6-LeuGlyIleLeuThrAlaCysAlaAlaMet-15
 17-AlaPheAlaAspArgIleGlyAspLeu-25
 65-PheGlnLysThrPheGlu-70
 81-GlnLysValArgGlnAlaCys-87

Antigenic Index - Jameson-Wolf

18-PheAlaAspArgIleGlyAspLeuGluAlaArgLeuAlaGlnLeuGluHisArgValAlaVal-38
 40-GluSerGlySerAsnThrValLys-47
 50-LeuPheGlySerAsnSer-55
 64-ProPheGlnLysThrPheGluAlaSerAspArgAsnGluGlyValAlaArgGlnLysValArgGlnAlaCysA
 snArgGluThrSerAla-93
 95-PheCysGluAspGluAlaIleArgCysArgLysPheAsp-107

Hydrophilic Regions - Hopp-Woods

18-PheAlaAspArgIleGlyAspLeuGluAlaArgLeuAlaGlnLeuGluHisArgValAlaVal-38

-633-

67-LysThrPheGluAlaSerAspArgAsnGluGlyValAlaArgGlnLysValArgGlnAlaCysAsnArgGluThrSer-92

95-PheCysGluAspGluAlaIleArgCysArgLysPheAsp-107

a915

AMPHI Regions - AMPHI

9-ValAlaValSerAlaLeuSerAlaCysArgGlnAla-20

31-IleSerAspArgSerVal-36

67-SerThrIleLysGlnMetPheGlyTyrThrLysLeuProGluGluProLysGlyIleArgValIleTyrValThrAspMetGlyAsnValThrAspTrpThr-100

139-GlnAlaGluLysPhe-143

Antigenic Index - Jameson-Wolf

15-SerAlaCysArgGlnAlaGluGluGlyProProProLeuProArgGlnIleSerAspArgSerValGlyHis-38

43-AsnLeuThrGluHisAsnGlyProLysAla-52

57-AsnGlyLysProAspGlnProVal-64

75-TyrThrLysLeuProGluGluProLysGlyIle-85

97-ThrAspTrpThrAsnProAsnAlaAspThrGluTrpMetAspAlaLysLys-113

125-GlyMetGlyAlaGluAspAlaLeuProPheGlyAsnLysGluGlnAlaGluLysPheAlaLysAspLysGlyGlyLysValValGlyPheAspAspMetProAspThrTyr-161

Hydrophilic Regions - Hopp-Woods

18-ArgGlnAlaGluGluGlyProProProLeu-27

30-GlnIleSerAspArgSerVal-36

46-GluHisAsnGlyProLys-51

58-GlyLysProAspGln-62

77-LysLeuProGluGluProLysGlyIle-85

103-AsnAlaAspThrGluTrpMetAspAlaLysLys-113

127-GlyAlaGluAspAlaLeu-132

135-GlyAsnLysGluGlnAlaGluLysPheAlaLysAspLysGlyGlyLys-150

155-AspAspMetProAsp-159

a917

AMPHI Regions - AMPHI

6-ProLeuAlaValLeuThrAlaLeuLeuLeu-15

37-ValLeuLysIleTyrAsnTrpSerGluTyrValAspProGluThrValAlaAsp-54

99-IleLysAlaGlyAlaTyrGlnLysIleAspLysSerLeu-111

124-ArgLeuMetAspGlyValAspPro-131

152-ArgValLysLysAlaLeu-157

188-AspSerAlaAlaGlu-192

206-AsnSerSerAsnThrGluAspIleArgGluAlaThr-217

292-AlaLysAsnValAlaAsnAlaHisLysTyrIleAsnAspPheLeuAsp-307

325-LysProAlaArgGluLeuMetGluAsp-333

Antigenic Index - Jameson-Wolf

18-CysGlyGlySerAspLysProProAlaGluLysProAlaProAlaGluAsnArgAsnVal-37

44-SerGluTyrValAspProGluThrValAlaAspPheGluLysLysAsnGlyIleLysValThr-64

68-TyrAspSerAspGluThrLeuGluSerLysValLeuThrGlyLysSerGlyTyrAsp-86

102-GlyAlaTyrGlnLysIleAspLysSerLeuIleProAsnTyrLysHisLeuAsnProGluMetMetArgLeuMetAspGlyValAspProGlyHisGluTyr-135

149-AsnThrGluArgValLysLysAlaLeuGlyThrAspLysLeuProAspAsnGln-166

171-PheAspProGluTyrThrSerLysLeuLysGlnCysGly-183

201-LeuGlyLysAsnProAsnSerSerAsnThrGluAspIleArgGluAlaThrAlaLeuLeuLysLysAsnArgProAsnIleLysArgPheThrSerSerGlyPheIle-236

238-AspLeuAlaArgGlyAspThr-244

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255-AsnIleAlaLysArgArgAlaGluGluAlaGlyGlyLysGluLysIleArgValMetMetProLysGluGlyValGly-280
 287-ValIleProLysAspAlaLysAsnValAlaAsn-297

305-PheLeuAspProGluValSerAlaLysAsnGlyAsn-316
 320-TyrAlaProSerSerLysProAlaArgGluLeuMetGluAspGluPheLysAsnAspAsnThrIlePheProThrGluGluAspLeuLysAsn-350
 368-GlnTrpGlnAspValLysAlaGlyLys-376

Hydrophilic Regions - Hopp-Woods

19-GlyGlySerAspLysProProAlaGluLysProAlaProAlaGluAsnArgAsnVal-37
 47-ValAspProGluThrValAlaAspPheGluLysLysAsnGlyIle-61
 68-TyrAspSerAspGluThrLeuGluSerLysValLeuThr-80
 105-GlnLysIleAspLysSerLeu-111
 121-GluMetMetArgLeuMetAspGlyValAspProGlyHis-133
 149-AsnThrGluArgValLysLysAlaLeuGlyThrAspLysLeuProAspAsnGln-166
 174-GluTyrThrSerLysLeuLysGln-181
 204-AsnProAsnSerSerAsnThrGluAspIleArgGluAlaThrAlaLeuLeuLysLysAsnArgProAsnIleLysArgPheThr-231
 238-AspLeuAlaArgGlyAspThr-244
 255-AsnIleAlaLysArgArgAlaGluGluAlaGlyGlyLysGluLysIleArgValMetMetProLysGluGly-278
 290-LysAspAlaLysAsnValAlaAsn-297
 305-PheLeuAspProGluValSerAlaLysAsn-314
 322-ProSerSerLysProAlaArgGluLeuMetGluAspGluPheLysAsnAspAsn-339
 343-ProThrGluGluAspLeuLysAsn-350
 370-GlnAspValLysAlaGlyLys-376

a919**AMPHI Regions - AMPHI**

13-IleAlaAlaAlaIleLeu-18
 24-LysSerIleGlnThrPheProGln-31
 37-IleAsnGlyProAspArgProValGlyIleProAsp-48
 76-AspPheAlaLysSerLeuGln-82
 98-GlnAspValCysAlaGlnAlaPheGlnThrProVal-109
 119-GluArgTyrPheThr-123
 133-LeuAlaGlyThrValThrGlyTyrTyrGlu-142
 161-GlyIleProAspAspPheIleSerValPro-170
 176-ArgSerGlyLysAlaLeuValArgIleArgGln-186
 191-SerGlyThrIleAspAsnThrGlyGlyThr-200
 308-GlnGlyIleLysAlaTyrMetGlnGlnAsnProGlnArgLeuAlaGluValLeu-325
 348-AlaLeuGlyThrProLeuMetGlyGluTyrAlaGlyAlaVal-361
 382-ArgLysAlaLeuAsnArg-387

Antigenic Index - Jameson-Wolf

21-CysGlnSerLysSerIleGlnThr-28
 30-ProGlnProAspThr-34
 36-ValIleAsnGlyProAspArgProValGlyIleProAspProAlaGlyThr-52
 54-ValGlyGlyGlyGly-58
 76-AspPheAlaLysSerLeuGln-82
 87-GlyCysAlaAsnLeuLysAsnArgGlnGlyTrpGln-98
 121-TyrPheThrProTrp-125
 143-ProValLeuLysGlyAspArgArgThrAlaGln-154
 162-IleProAspAspPheIle-167

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173-AlaGlyLeuArgSerGlyLysAlaLeuValArgIleArgGlnThrGlyLysAsnSerGlyThrIleAspAsn
 ThrGlyGlyThrHis-201
 215-ThrAlaIleLysGlyArgPheGluGlySerArgPheLeuProTyrHisThrArgAsnGlnIleAsnGlyGly
 AlaLeuAspGlyLysAlaPro-245
 250-AlaGluAspProValGlu-255
 262-GlnGlySerGlyArgLeuLysThrProSerGlyLysTyrIleArg-276
 278-GlyTyrAlaAspLysAsnGluHisPro-286
 293-TyrMetAlaAspLysGlyTyrLeuLysLeuGlyGln-304
 316-GlnAsnProGlnArgLeuAlaGlu-323
 326-GlyGlnAsnProSer-330
 337-LeuThrGlySerSerAsnAspGlyProVal-346
 359-GlyAlaValAspArgHisTyr-365
 379-ProValThrArgLysAlaLeuAsn-386
 393-AspThrGlySerAlaIleLysGlyAlaValArg-403
 409-GlyTyrGlyAspGluAlaGlyGluLeuAlaGlyLysGlnLysThrThr-424
 431-LeuProAsnGlyMetLysProGluTyrArgPro-441

Hydrophilic Regions - Hopp-Woods

38-AsnGlyProAspArgProValGly-45
 90-AsnLeuLysAsnArgGlnGlyTrp-97
 144-ValLeuLysGlyAspAspArgArgThrAlaGln-154
 175-LeuArgSerGlyLysAlaLeuValArgIleArgGlnThrGlyLysAsnSerGlyThrIleAspAsnThrGly
 -198
 215-ThrAlaIleLysGlyArgPheGluGly-223
 239-AlaLeuAspGlyLysAla-244
 250-AlaGluAspProVal-254
 265-GlyArgLeuLysThrProSer-271
 279-TyrAlaAspLysAsnGluHis-285
 317-AsnProGlnArgLeuAlaGlu-323
 337-LeuThrGlySerSerAsnAspGlyPro-345
 380-ValThrArgLysAlaLeuAsn-386
 393-AspThrGlySerAlaIle-398
 412-AspGluAlaGlyGluLeuAlaGlyLysGlnLysThr-423
 434-GlyMetLysProGluTyrArgPro-441
a919

AMPHI Regions - AMPHI

13-IleAlaAlaAlaIleLeu-18
 24-LysSerIleGlnThrPheProGln-31
 37-IleAsnGlyProAspArgProValGlyIleProAsp-48
 76-AspPheAlaLysSerLeuGln-82
 98-GlnAspValCysAlaGlnAlaPheGlnThrProVal-109
 119-GluArgTyrPheThr-123
 133-LeuAlaGlyThrValThrGlyTyrTyrGlu-142
 161-GlyIleProAspAspPheIleSerValPro-170
 176-ArgSerGlyLysAlaLeuValArgIleArgGln-186
 191-SerGlyThrIleAspAsnThrGlyGlyThr-200
 308-GlnGlyIleLysAlaTyrMetGlnGlnAsnProGlnArgLeuAlaGluValLeu-325
 348-AlaLeuGlyThrProLeuMetGlyGluTyrAlaGlyAlaVal-361
 382-ArgLysAlaLeuAsnArg-387

Antigenic Index - Jameson-Wolf

21-CysGlnSerLysSerIleGlnThr-28
 30-ProGlnProAspThr-34
 36-ValIleAsnGlyProAspArgProValGlyIleProAspProAlaGlyThr-52
 54-ValGlyGlyGlyGly-58

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76-AspPheAlaLysSerLeuGln-82
 87-GlyCysAlaAsnLeuLysAsnArgGlnGlyTrpGln-98
 121-TyrPheThrProTrp-125
 143-ProValLeuLysGlyAspArgArgThrAlaGln-154
 162-IleProAspAspPheIle-167
 173-AlaGlyLeuArgSerGlyLysAlaLeuValArgIleArgGlnThrGlyLysAsnSerGlyThrIleAspAsn
 ThrGlyGlyThrHis-201
 215-ThrAlaIleLysGlyArgPheGlyGlySerArgPheLeuProTyrHisThrArgAsnGlnIleAsnGlyGly
 AlaLeuAspGlyLysAlaPro-245
 250-AlaGluAspProValGlu-255
 262-GlnGlySerGlyArgLeuLysThrProSerGlyLysTyrIleArg-276
 278-GlyTyrAlaAspLysAsnGluHisPro-286
 293-TyrMetAlaAspLysGlyTyrLeuLysLeuGlyGln-304
 316-GlnAsnProGlnArgLeuAlaGlu-323
 326-GlyGlnAsnProSer-330
 337-LeuThrGlySerSerAsnAspGlyProVal-346
 359-GlyAlaValAspArgHisTyr-365
 379-ProValThrArgLysAlaLeuAsn-386
 393-AspThrGlySerAlaIleLysGlyAlaValArg-403
 409-GlyTyrGlyAspGluAlaGlyGluLeuAlaGlyLysGlnLysThrThr-424
 431-LeuProAsnGlyMetLysProGluTyrArgPro-441

Hydrophilic Regions - Hopp-Woods

38-AsnGlyProAspArgProValGly-45
 90-AsnLeuLysAsnArgGlnGlyTrp-97
 144-ValLeuLysGlyAspAspArgArgThrAlaGln-154
 175-LeuArgSerGlyLysAlaLeuValArgIleArgGlnThrGlyLysAsnSerGlyThrIleAspAsnThrGly
 -198
 215-ThrAlaIleLysGlyArgPheGlyGly-223
 239-AlaLeuAspGlyLysAla-244
 250-AlaGluAspProVal-254
 265-GlyArgLeuLysThrProSer-271
 279-TyrAlaAspLysAsnGluHis-285
 317-AsnProGlnArgLeuAlaGlu-323
 337-LeuThrGlySerSerAsnAspGlyPro-345
 380-ValThrArgLysAlaLeuAsn-386
 393-AspThrGlySerAlaIle-398
 412-AspGluAlaGlyGluLeuAlaGlyLysGlnLysThr-423
 434-GlyMetLysProGluTyrArgPro-441
a920-2

AMPHI Regions - AMPHI

43-GlyGluPheProGluLeuGluProIleAla-52
 118-IleLysGlnMetProAsp-123
 135-LysAsnIleValAsnVal-140
 163-LeuAspAsnProAlaAsn-168
 190-ThrValThrAlaThrPheAspGlyPheAspThrSerAspArgSerLys-205
 212-GlnAlaPheSerAspSerThr-218

Antigenic Index - Jameson-Wolf

40-LeuGlyTyrGlyGlu-44
 49-GluProIleAlaLysAspArgLeu-56
 66-ValThrGluLysGlyLysGluAsnMetIle-75
 82-TyrGlnTyrArgSerAsnArgProValLysAspGlySerTyr-95
 104-ThrPheTrpSerLysAsnLysAlaGlyTrp-113

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120-GlnMetProAspAlaSerTyrCysGluGlnThrArgMetPheGlyLysAsnIleValAsnValGlyHisGlu
SerAlaAspThr-147
152-LysProValGlyGlnAsnLeuGlu-159
162-ProLeuAspAsnProAla-167
173-GluArgPheLysVal-177
181-PheArgGlyGluProLeuProAsnAla-189
194-ThrPheAspGlyPheAspThrSerAspArgSerLysThrHisLysThrGluAla-211
213-AlaPheSerAspSerThrAspAspLysGlyGluValAsp-225
237-AsnValGluHisLysAlaAspPheProAspGlnSerValCysGlnLysGlnAlaAsnTyrSer-257

Hydrophilic Regions - Hopp-Woods

49-GluProIleAlaLysAspArgLeu-56
66-ValThrGluLysGlyLysGluAsnMetIle-75
85-ArgSerAsnArgProValLysAspGlySer-94
107-SerLysAsnLysAlaGlyTrp-113
128-GluGlnThrArgMetPheGly-134
142-HisGluSerAlaAsp-146
173-GluArgPheLysVal-177
196-AspGlyPheAspThrSerAspArgSerLysThrHisLysThrGluAla-211
213-AlaPheSerAspSerThrAspAspLysGlyGluValAsp-225
237-AsnValGluHisLysAlaAspPheProAsp-246
248-SerValCysGlnLys-252

a921**AMPHI Regions - AMPHI**

10-IleValAlaValLeuSerGlyCysGlnSerIleTyrValProThrLeuThrGluIleProValAsn-31
33-IleAsnThrValLysThr-38
51-HisTrpThrAspValAlaLysIleSerAspGlu-61
72-GlyLysMetThrLysValGlnAlaAlaGlnTyrLeuAsnAsnPheArgLys-88
98-AspSerMetTyrGluIleTyrLeuArg-106
126-GlnAsnAlaLeuArgGlyTrpGlnGlnArg-135

Antigenic Index - Jameson-Wolf

36-ValLysThrGluAlaProAlaLysGlyPheArg-46
56-AlaLysIleSerAspGluAlaThrArg-64
72-GlyLysMetThrLys-76
84-AsnAsnPheArgLysArgLeuValGlyArgAsnAlaValAspAspSerMet-100
108-AlaIleAspSerGlnArgGlyAlaIleAsnThrGluGlnSerLys-122
128-AlaLeuArgGlyTrpGlnGlnArgTrpLysAsnMetAspValLysProAsnAsnProAla-147

Hydrophilic Regions - Hopp-Woods

36-ValLysThrGluAlaProAlaLysGlyPheArg-46
56-AlaLysIleSerAspGluAlaThrArg-64
86-PheArgLysArgLeuValGly-92
94-AsnAlaValAspAspSerMet-100
108-AlaIleAspSerGlnArgGlyAlaIleAsnThrGluGlnSerLys-122
136-TrpLysAsnMetAspValLysProAsnAsn-145

a922**AMPHI Regions - AMPHI**

16-LeuSerAlaCysThr-20
28-ArgAlaAsnGluAlaGlnAlaPro-35
72-ValArgArgPheValAspAsp-78
89-GluTrpGlnAspPheAspLys-96
104-ValLysIleMetHis-108
144-AspAspValAlaGln-148
172-GlySerPheArgValAlaAspAlaLeu-180

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196-LysGluLeuValGluLeuLeuLysLeuAla-205
 222-AlaMetGlyMetPro-226
 245-HisArgAspIleTrpGlyAsnValGlyAspValAlaAlaSerIleAlaAsnTyrMetLysGlnHis-266
 298-ArgThrValAlaAspLeuLysAlaTyr-306
 335-TyrLeuGlyLeuAsnAsnPheTyrThr-343

Antigenic Index - Jameson-Wolf

1-MetLysAsnArgLysIleLeu-7
 22-MetGluAlaArgProProArgAlaAsnGluAlaGlnAlaProArgAlaAspGluMetLysLysGluSerArgProAlaPhe-48
 61-ValSerAspSerGlyPhe-66
 70-AlaAsnValArgArgPheValAspAspGluValGlyLysGlyAspPheSerArgAlaGluTrp-90
 107-MetHisArgProSerThrSerArgPro-115
 120-ArgThrGlyAsnSerGlyLysAlaLysPheArgGlyAlaArgArgPheTyrAlaGluAsnArgAlaLeuIle-143
 145-AspValAlaGlnLysTyrGlyVal-152

163-IleGluThrAsnTyrGlyLysAsnThrGlySer-173
 186-AspTyrProArgArgAlaGlyPhePhe-194
 203-LysLeuAlaLysGluGluGlyGlyAsp-211
 229-MetProSerSerTyrArgLysTrpAlaValAspTyrAspGlyAspGlyHisArgAspIle-248
 266-HisGlyTrpArgThrGlyGlyLys-273
 281-AlaProGlyAlaAsp-285
 290-IleGlyGluLysThrAlaLeu-296
 310-ProGlyGluGluLeuAlaAspAspGluLysAlaVal-321
 326-GluThrAlaProGly-330
 357-ValArgAspIleAlaAsnSerLeuGlyGlyProGlyLeu-369

Hydrophilic Regions - Hopp-Woods

1-MetLysAsnArgLysIleLeu-7
 22-MetGluAlaArgProProArgAlaAsnGluAlaGlnAlaProArgAlaAspGluMetLysLysGluSerArgProAlaPhe-48
 70-AlaAsnValArgArgPheValAspAspGluValGlyLysGlyAspPheSerArgAlaGluTrp-90
 122-GlyAsnSerGlyLysAlaLysPheArgGlyAlaArgArgPheTyrAlaGluAsnArgAlaLeuIle-143
 166-AsnTyrGlyLysAsnThrGly-172
 187-TyrProArgArgAlaGlyPhePhe-194
 203-LysLeuAlaLysGluGluGlyGlyAsp-211
 240-TyrAspGlyAspGlyHisArgAspIle-248
 290-IleGlyGluLysThrAlaLeu-296
 310-ProGlyGluGluLeuAlaAspAspGluLysAlaVal-321
 357-ValArgAspIleAla-361

a923-2**AMPHI Regions - AMPHI**

9-LeuMetAlaCysAlaAlaPheLeu-16
 26-LeuGlyAlaCysTyrAlaIleLeuSerLeuTyrAla-37
 63-ProAlaLeuPheGlyGlyTrpAlaGly-71

Antigenic Index - Jameson-Wolf

43-IleAspLysArgArgAlaValArgGlyLysArgArgIleProGluHisArgLeu-60
 77-ArgIlePheArgHisLysThrAlaLysLysArgPhe-88

Hydrophilic Regions - Hopp-Woods

43-IleAspLysArgArgAlaValArgGlyLysArgArgIleProGluHisArgLeu-60
 77-ArgIlePheArgHisLysThrAlaLysLysArgPhe-88

a925-1

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AMPHI Regions - AMPHI

66-LysCysGlyGlnThrAlaGln-72
 90-HisGlnAlaAlaIleGluGlnLeuLys-98
 105-PheAspGluLeuGlu-109

Antigenic Index - Jameson-Wolf

6-PheThrGlyLysGluGluSerMetLeuLeuSerGluLysAspGlyAla-21
 25-AsnThrGlyIleGly-29
 31-IleProIleLysLeuSerAspAspGlyLysGluLeuTyrValGluArgGlnTyrValLysThrAspAlaAlaMetLysAspLysIleIleAlaHisGlnLysLysCysGlyGlnThr-70
 75-LeuAspAlaArgAsnAlaLeuProSerAsnGlnThrTyrGln-88
 95-GluGlnLeuLysArgArgPheGluAlaGluPheAspGluLeuGluLysGluIleLysCysAsnGlyLysProThr-119

Hydrophilic Regions - Hopp-Woods

7-ThrGlyLysGluGluSerMetLeuLeuSerGluLysAspGlyAla-21
 31-IleProIleLysLeuSerAspAspGlyLysGluLeuTyrValGluArgGlnTyrValLysThrAspAlaAlaMetLysAspLysIleIleAlaHisGlnLysLysCysGlyGln-69
 75-LeuAspAlaArgAsnAlaLeu-81
 95-GluGlnLeuLysArgArgPheGluAlaGluPheAspGluLeuGluLysGluIleLysCysAsnGlyLys-117
a926

AMPHI Regions - AMPHI

32-HisThrArgSerPhe-36
 72-LeuGlySerThrLeuGlyGln-78
 98-AlaGluSerAlaGluGluLeuSerArgGln-107
 129-GlyAlaProTyrArgIleLeuProAspGlyIle-139
 151-AlaAspSerGlyGlyGlnVal-157

Antigenic Index - Jameson-Wolf

19-LeuProGlnAsnAsnGluAsnLeuTrpGlnProSerGluHisThrArgSerPheThrAlaGluGlyArgLeuAlaValLysAlaGluGlyLysGlySerTyrAla-53
 70-ThrProLeuGlySer-74
 79-LeuCysGlnAspArgAspGlyAlaLeu-87
 89-ValAspGlyLysGlyAsnValTyr-96
 99-GluSerAlaGluGluLeuSerArg-106
 122-AlaAspGlyArgProValAlaGlyAlaPro-131
 134-IleLeuProAspGlyIleLeu-140
 148-GlyArgThrAlaAspSerGlyGlyGln-156
 177-GlyMetProSerGluThrGluThrGlnGluGlnCysAla-189

Hydrophilic Regions - Hopp-Woods

36-PheThrAlaGluGlyArgLeuAlaValLysAlaGluGlyLysGlySer-51
 80-CysGlnAspArgAspGlyAlaLeu-87
 89-ValAspGlyLysGly-93
 99-GluSerAlaGluGluLeuSerArg-106
 123-AspGlyArgProValAla-128
 149-ArgThrAlaAspSerGlyGlyGln-156
 180-SerGluThrGluThrGlnGluGlnCysAla-189
a927

AMPHI Regions - AMPHI

13-LeuLeuSerAlaCysSer-18
 48-SerTyrAspValAlaArgAspPheTyrLysGlu-58
 120-LysGlyTrpGlnGlnAlaLeuPro-127
 145-AsnProLysGlnIleArgAspTrpAsnAspLeuAlaLysAspGly-159
 197-LysLeuValAlaSerIleLeu-203

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Antigenic Index - Jameson-Wolf

18-SerProAlaAlaAspSerAsnHisProSerGlyGlnAsnAlaProAlaAsnThrGluSerAspGlyLysAsnI
leThr-43
48-SerTyrAspValAlaArgAspPheTyrLysGluTyrAsnPro-61
67-TyrGlnSerGluHisProGlyThrSer-75
80-GlnSerHisGlyGlySerSerLysGln-88
104-AsnGlnSerSerAspIleAspLeuLeuGluLysLysGlyLeuVal-118
126-LeuProAspHisAlaAlaProTyrThr-134
142-ArgLysAsnAsnProLysGlnIleArgAspTrpAsnAspLeuAlaLysAspGlyVal-160
166-AsnProLysThrSerGlyAsnGlyArg-174
185-LeuLysThrThrAsnGlyAsnGluGlnGluAlaGlnLys-197
203-LeuLysAsnThrProValPheGluAsnGlyGlyArgAlaProPrProSerHisAsnAlaThrSer-225
230-SerLeuLeuLysThrLysProThrThrSerAlaLysAsn-242

Hydrophilic Regions - Hopp-Woods

19-ProAlaAlaAspSerAsnHisProSer-27
33-AlaAsnThrGluSerAspGlyLysAsn-41
50-AspValAlaArgAspPheTyrLys-57
67-TyrGlnSerGluHisProGly-73
82-HisGlyGlySerSerLysGln-88
105-GlnSerSerAspIleAspLeuLeuGluLysLysGlyLeuVal-118
142-ArgLysAsnAsnProLysGlnIleArgAspTrpAsnAspLeuAlaLysAspGlyVal-160
167-ProLysThrSerGlyAsnGly-173
187-ThrThrAsnGlyAsnGluGlnGluAlaGlnLys-197
211-AsnGlyGlyArgAlaProPro-217
232-LeuLysThrLysProThrThrSerAlaLysAsn-242
a929

AMPHI Regions - AMPHI

25-ValProAspGlyValLys-30
34-TrpThrLeuLeuAlaMetPheIleGlyValIleAlaAlaIleIle-48
76-GlyAlaAlaMetSerAspAlaLeuSerAlaPhe-86
155-HisProIleMetGlnSerIleAlaGlySerTyrGlySerAsnProAlaLys-171
180-TyrLeuAlaLeuVal-184
204-ProLeuIleValAsnLeuIleAlaGluAsnLeuGly-215
233-GlyValIleAlaPhePhe-238
265-ArgLeuArgGluMetGlyLysMetSer-273
280-AlaValIlePheGlyIle-285
355-LeuGlyLeuIleLysTrpPheSerGlyValLeuAlaGluSerValGlyGlyLeu-372
398-ThrAlaHisIleThrAlaMetPheGlyAlaPheAla-410
452-TyrThrThrMetGlyGluTrpTrp-459

Antigenic Index - Jameson-Wolf

25-ValProAspGlyValLysProGln-32
71-ThrAlaAspLysProGlyAlaAlaMet-79
122-GlyArgLysThrLeuGlyIle-128
143-ThrProSerAsnThrAlaArgGlyGlyGly-152
163-GlySerTyrGlySerAsnProAlaLysGlyThrGluGlyLysMetGlyLys-179
187-HisSerAsnProIleSer-192
213-AsnLeuGlySerSerPhe-218
248-TyrProProGluIleLysGluThrProAsn-257
261-PheAlaLysAspArgLeuArgGluMetGlyLysMetSerAlaAspGluIle-277

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328-AspValLeuLysGluLysSerAlaTrp-336

Hydrophilic Regions - Hopp-Woods

71-ThrAlaAspLysProGlyAlaAlaMet-79

146-AsnThrAlaArgGly-150

168-AsnProAlaLysGlyThrGluGlyLysMetGlyLys-179

250-ProGluIleLysGluThrProAsn-257

261-PheAlaLysAspArgLeuArgGluMetGlyLysMetSerAlaAspGluIle-277

328-AspValLeuLysGluLysSerAlaTrp-336

a931**AMPHI Regions - AMPHI**

43-LysAlaProLysThrValAlaAsnPheValArgTyrAlaArgLys-57

67-ArgValIleGlyGly-71

81-GluAspLeuAlaGlnLysAlaSerAspLys-90

94-AsnGluSerGlyAsnGlyLeuLysAsnThrValGly-105

107-IleAlaMetAlaArgThrAlaAspProAsp-116

120-SerGlnPhePheIle-124

142-ThrValPheGlyArgValGluSerGlyMetAsnThrValSerLysIleAlaArgValLysThrAlaThrArg
GlyPhe-167**Antigenic Index - Jameson-Wolf**

1-MetLysProLysPhe-5

30-ThrAspMetGlyAsn-34

38-ValLeuAspGluSerLysAlaProLysThr-47

53-ArgTyrAlaArgLysGlyPheTyrAspAsnThrIle-64

76-GlyGlyGlyLeuThrGluAspLeuAlaGlnLysAlaSerAspLysAlaValAlaAsnGluSerGlyAsnGlyL
euLysAsnThrVal-104

111-ArgThrAlaAspProAspSerAlaThr-119

127-ValAspAsnAspSerLeuAsnTyrLysAsnGlyGln-138

145-GlyArgValGluSerGlyMetAsnThrVal-154

156-LysIleAlaArgValLysThrAlaThrArgGlyPhe-167

176-ValLysIleArgArg-180

Hydrophilic Regions - Hopp-Woods

1-MetLysProLysPhe-5

30-ThrAspMetGlyAsn-34

38-ValLeuAspGluSerLysAlaProLysThr-47

78-GlyLeuThrGluAspLeuAlaGlnLysAlaSerAspLysAlaValAlaAsnGluSerGlyAsnGlyLeu-100

111-ArgThrAlaAspProAspSerAlaThr-119

127-ValAspAspSerLeuAsn-133

145-GlyArgValGluSerGlyMet-151

156-LysIleAlaArgValLysThrAlaThr-164

176-ValLysIleArgArg-180

a933**AMPHI Regions - AMPHI**

27-AsnIleProAlaLeuPheProLysHisProPheAspProPheGluAsnIleAsnAsnSerLysArg-48

63-GlyPheAlaGlnGlyLeu-68

78-GluLysProIleArgGlnTyrPheLysGluCysLeuAsnThrGly-92

95-SerAspAspThrCys-99

131-ValGlyAsnTyrIleGluTrpLeu-138

155-AspValAspProPheHisTyrIleGluVal-164

257-GluAsnProIleAspAspLeuLysSerLeuAspGlyHisGlnIleIleLysValAsn-275

304-GlyPhePheThrLys-308

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351-TrpLeuArgValIleAspGlyHisSerAsn-360
 426-AlaGlyIleTyrAlaThrTrpHis-433
 447-TrpValGlnTyrGln-451
 462-AlaThrGluArgPheThr-467
 469-LysGlyIleThrAlaSer-474
 478-GlyTyrAsnAlaLeuLeuAla-484
 543-LeuTyrLysAsnIleAlaIleGlu-550
 552-PheAlaAlaValAsn-556
 601-PheAsnArgGlnThrGly-606

Antigenic Index - Jameson-Wolf

1-LysLysLeuArgAspArgAsnSerGluTyrTrpLysGluGluThrTyrHisIleLysSerAsnAsnArgValTyrPro-26
 33-ProLysHisProPheAspProPheGluAsnIleAsnAsnSerLysArgIleSerPheTyrAspLysGluTyrThrGluAspTyr-60
 69-GlyValAlaLysArgAsnGlyGluThrGluLysProIleArg-82
 88-CysLeuAsnThrGlyLysTyrSerAspAspThrCysLysSerGlnGlnSer-104
 108-ValArgSerAspIle-112
 117-ThrLysIleLysAsnSerHisIleAsnSerGluIle-128
 145-LeuSerSerSerGlnGluHisLeuTyrSerAspValAspProPheHis-160
 163-GluValThrAspAsnSerHis-169
 178-AspGluPheArgLeuGluAsnSerLeuTrpGluProArgTrpAspSerAspValGlyGluLeuLysThrThrAsnAlaAspIleArgPheAsnThrLysSerGluSerLeuLeuValLysGluAspTyrAlaGlyGlyAlaArgPhe-226
 231-GlyLeuLysAspLysValProGluThrPro-240
 244-PheGluLysAsnIleThrGlyThrSer-252
 255-IlePheGluAsnProIleAspAspLeuLysSerLeuAspGlyHisGlnIleIle-272
 274-ValAsnGlyThrAlaAspLysHisAlaPheArgLeuSerGlyLysHisGlnLysGly-292
 298-LeuGlnGlnArgProGluGlyPhe-305
 308-LysValGlnGluArgAspAspIleSer-316
 332-ArgLeuAsnAspLysAsnSerAspIlePheAspArgThrLeuProArgLysGlyLeu-350
 355-IleAspGlyHisSerAsnGlnTrpValGlnGlyLysThrAlaProValGluSerAsnArgLysGlyVal-377
 387-GlnAsnGluSerAsnGlnLeu-393
 399-SerGlyGlnAlaGluGlnArgSerThrPheArgAsnProAspThrAspAsnLeuThrThrGlyAsnValLysGlyPheGly-425
 435-LeuGlnAspLysGlnThrGlyAlaTyrAlaAspSer-446
 451-GlnArgPheArgHisArgIleAsnThrGluAspAlaThrGluArgPheThrSerLysGlyIle-471
 486-HisPheThrLysLysGlyAsnArgVal-494
 509-ValAsnGlyLysPheSerAspSerGluAsnAla-519
 524-LeuGlySerArgGlnLeuGlnSer-531
 562-LysProPheGlyValGluMetAspGlyGluArgArgMetIleAsnAsnLysThrAlaIleGluSer-583
 589-ValLysIleLysSer-593
 600-ThrPheAsnArgGlnThrGlyLysHisHisGlnAlaLysGlnGly-614

Hydrophilic Regions - Hopp-Woods

1-LysLysLeuArgAspArgAsnSerGluTyrTrpLysGluGluThrTyrHis-17
 35-HisProPheAspPro-39
 44-AsnAsnSerLysArgIleSerPheTyrAspLysGluTyrThrGlu-58
 70-ValAlaLysArgAsnGlyGluThrGluLysProIle-81
 93-LysTyrSerAspAspThrCysLysSerGlnGln-103
 117-ThrLysIleLysAsn-121
 152-LeuTyrSerAspValAsp-157
 178-AspGluPheArgLeuGlu-183

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189-ProArgTrpAspSerAspValGlyGluLeuLysThrThrAsnAlaAspIleArgPheAsnThrLysSerGlu
 SerLeuLeuValLysGluAspTyrAlaGly-222
 232-LeuLysAspLysValProGlu-238
 246-LysAsnIleThrGly-250
 258-AsnProIleAspAspLeuLysSerLeuAsp-267
 276-GlyThrAlaAspLysHisAlaPhe-283
 285-LeuSerGlyLysHisGlnLys-291
 299-GlnGlnArgProGluGlyPhe-305
 309-ValGlnGluArgAspAspIle-315
 333-LeuAsnAspLysAsnSerAspIlePheAsp-342
 366-LysThrAlaProValGluSerAsnArgLysGlyVal-377
 388-AsnGluSerAsnGln-392
 401-GlnAlaGluGlnArgSerThrPheArgAsnProAspThrAspAsnLeuThr-417
 435-LeuGlnAspLysGlnThr-440
 451-GlnArgPheArgHisArgIleAsnThrGluAspAlaThrGluArgPheThrSer-468
 486-HisPheThrLysLysGlyAsnArg-493
 512-LysPheSerAspSerGluAsnAla-519
 527-ArgGlnLeuGlnSer-531
 564-PheGlyValGluMetAspGlyGluArgArgMetIleAsn-576
 589-ValLysIleLysSer-593
 603-ArgGlnThrGlyLysHisHisGlnAlaLysGlnGly-614
a935

AMPHI Regions - AMPHI

41-ValSerAspLysTrpAla-46
 56-AlaProArgValVal-60
 72-LeuGluHisSerLeuArgAsp-78
 87-LeuIleAlaSerLeuAlaAspLeuTyrAlaLysLeu-98
 111-AlaLeuLeuAlaLysLeuAlaGlyArgProAlaGluAlaValAlaArgTyrArgGlu-129
 172-ProValLeuGluAsnValGlyArgPheArgLysLysAlaGlu-185
 375-LysArgLeuGlyGluSerAlaThrValPheGlyGlyTrpGlnPheVal-390
 415-AlaGlyTrpAlaGlnGluTrpArgGlnLeuGlyGlyLeu-427
 435-TyrAlaArgArgAsnTyr-440

Antigenic Index - Jameson-Wolf

27-AlaIleLeuAspAspLysAlaLeu-34
 39-ArgSerValSerAspLysTrpAlaGluSerAspTrpLysValAspAsnAspAlaProArgValValAspGlyA
 spPhe-64
 70-LysMetLeuGluHisSerLeuArgAspValLeuAsnGlyAsnGlnAlaAsp-86
 97-LysLeuProAspTyrAspAla-103
 108-ArgAlaArgAlaLeu-112
 116-LeuAlaGlyArgProAlaGluAlaValAlaArgTyrArgGluLeuHisGlyGluAsnAlaAlaAspGluArg
 IleLeu-141
 145-AlaAlaAlaGluPheAspAspPheArgLeuLysSerAlaGluArgHisPheAlaGluAlaGluLysLeuAsp
 Leu-169
 176-AsnValGlyArgPheArgLysLysAlaGluGlyLeuThrGly-189
 192-PheSerGlyGlyIle-196
 199-AlaValAsnArgAsnAlaAsnAsnAlaAla-208
 210-GlnTyrCysArgGlnAsnGlyGlyArgGln-219
 224-SerArgAlaGluArgAlaAla-230
 236-IleGluAlaGluLysLeuThrAla-243
 253-ArgSerAsnIleGlyGlyThrSerTyr-261
 263-PheSerLysLysSerAlaTyrAspAspGlyPheGlyArg-275
 279-GlyTrpGlnTyrLysAsnAlaArgGlnThr-288
 300-SerGlySerAspGlyPheAspAlaLysThrLysArgValAsnAsnArgArgLeuProProTyr-320
 332-HisThrTyrArgProAsnProGlyTrp-340

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347-GluHisTyrArgGlnArgTyrArgGluGlnAspArgAlaGluTyrAsnAsnGlyArgGlnAspGlyPheTyr-370
 373-SerAlaLysArgLeuGlyGlu-379
 392-PheValProLysArgGluThrVal-399
 406-AlaAlaTyrArgArgAsnGlyValTyrAlaGly-416
 425-GlyGlyLeuAsnSerArgValSerAlaSerTyrAlaArgArgAsnTyrLysGly-442
 448-ThrGluAlaGlnArgAsnArgGluTrpAsn-457
 463-SerHisAspLysLeuSerTyrLysGly-471
 480-PheGlyArgThrGluSerAsnValProTyrAlaLysArgArgAsnSerGlu-496
 501-AlaAspTrpArgPhe-505

Hydrophilic Regions - Hopp-Woods

27-AlaIleLeuAspAspLysAlaLeu-34
 39-ArgSerValSerAspLysTrpAlaGluSerAspTrpLysValAspAsnAspAlaProArgValValAsp-61
 70-LysMetLeuGluHisSerLeuArgAspValLeuAsn-81
 108-ArgAlaArgAlaLeu-112
 116-LeuAlaGlyArgProAlaGluAlaValAlaArgTyrArgGluLeuHisGly-132
 134-AsnAlaAlaAspGluArgIleLeu-141
 145-AlaAlaAlaGluPheAspAspPheArgLeuLysSerAlaGluArgHisPheAlaGluAlaGluLysLeuAspLeu-169
 176-AsnValGlyArgPheArgLysLysAlaGluGly-186
 200-ValAsnArgAsnAlaAsn-205
 212-CysArgGlnAsnGlyGlyArgGln-219
 224-SerArgAlaGluArgAlaAla-230
 236-IleGluAlaGluLysLeuThrAla-243
 265-LysLysSerAlaTyrAspAspGlyPheGly-274
 283-LysAsnAlaArgGlnThr-288
 303-AspGlyPheAspAlaLysThrLysArgValAsnAsnArgArgLeuPro-318
 348-HisTyrArgGlnArgTyrArgGluGlnAspArgAlaGluTyrAsnAsnGlyArgGlnAsp-367
 373-SerAlaLysArgLeuGlyGlu-379
 393-ValProLysArgGluThrVal-399
 407-AlaTyrArgArgAsnGly-412
 435-TyrAlaArgArgAsnTyrLys-441
 449-GluAlaGlnArgAsnArgGluTrp-456
 463-SerHisAspLysLeuSerTyr-469
 480-PheGlyArgThrGluSer-485
 489-TyrAlaLysArgArgAsnSerGlu-496
 a936-1

AMPHI Regions - AMPHI

8-ValArgThrLeuThrAla-13
 22-GlyCysValSerAlaVal-27
 100-GlnPheValGlyGlnIle-105
 112-AlaGluGlyValTyrAsnTyrIleThrValAlaSerLeuProArgThrAlaGlyAspIleAlaGlyAsp-134

Antigenic Index - Jameson-Wolf

1-MetLysProLysProHisThrValArg-9
 33-ValGlyAlaLysSerAlaValAspArgArgThrThrGlyAlaGlnThrAspAspAsnValMet-53
 56-ArgIleGluThrThrAlaArgSerTyrLeuArgGlnAsnAsnGlnThrLysGlyTyr-74
 94-AlaThrGluGlyGluLysGlnPhe-101
 106-AlaArgSerGluGlnAlaAla-112
 124-LeuProArgThrAlaGlyAspIleAlaGlyAspThrTrpAsnThrSerLysValArgAla-143
 149-SerProAlaThrGlnAlaArgValLys-157
 172-ThrProGluGluGlnAlaGlnIleThr-180

Hydrophilic Regions - Hopp-Woods

1-MetLysProLysProHisThr-7
 37-SerAlaValAspArgArgThrThrGlyAlaGlnThrAspAsnValMet-53
 56-ArgIleGluThrThrAla-61
 68-AsnAsnGlnThrLysGlyTyr-74
 94-AlaThrGluGlyGluLysGlnPhe-101
 106-AlaArgSerGluGlnAlaAla-112
 125-ProArgThrAlaGly-129
 152-ThrGlnAlaArgValLys-157
 172-ThrProGluGluGlnAlaGlnIle-179
a937

AMPHI Regions - AMPHI

6-LeuProAlaLeuProAlaIleLeuProLeuSerAla-17
 232-LysGlnProAspArgLeuAsp-238

Antigenic Index - Jameson-Wolf

27-AspIleMetThrAspLysGlyLysTrpLysLeuGluThr-39
 44-LeuAsnSerGluAsnAsnArgAlaGluLeu-53
 71-ThrGluIleGlnGluAsnGlySerAsnThr-80
 95-GlyAsnThrAspIleTyrGlySerGlySer-104
 108-HisGluGluArgLysLeuAspGlyAsnGlyLysThrArgAsnLysArgMetSerAsp-126
 135-PheLeuLysAspAspLysAsnProAla-143
 151-ThrValTyrGluLysSerArgAsnLysAlaSerSerGlyLysSer-165
 187-TyrArgIleAsnGlySerLysThrLeuSerSerAsnThrLysTyrLysAlaGly-204
 217-AlaAsnAspArgIleSerLeuThrGlyGly-226
 231-GlyLysGlnProAspArgLeuAspGlyLysLysGluSerAlaArgAsnThrSerThr-249
 273-ValSerGlyGlnSerSerSerGluLeuLysPhe-283

Hydrophilic Regions - Hopp-Woods

27-AspIleMetThrAspLysGlyLysTrpLysLeu-37
 47-GluAsnAsnArgAlaGluLeu-53
 72-GluIleGlnGluAsnGlySerAsn-79
 108-HisGluGluArgLysLeuAspGlyAsnGlyLysThrArgAsnLysArgMetSerAsp-126
 135-PheLeuLysAspAspLysAsnPro-142
 151-ThrValTyrGluLysSerArgAsnLysAlaSerSer-162
 193-LysThrLeuSerSer-197
 199-ThrLysTyrLysAla-203
 217-AlaAsnAspArgIleSer-222
 232-LysGlnProAspArgLeuAspGlyLysLysGluSerAlaArgAsn-246
 277-SerSerSerGluLeuLysPhe-283
a939

AMPHI Regions - AMPHI

32-AlaThrValCysAla-36
 90-AspGlnAspIleLeu-94
 121-LysIleTyrArgGly-125
 135-CysMetSerCysHisGly-140
 151-SerGluIleGlnAlaTyrProArgLeuGlyGly-161
 169-GluGlnMetAsnAlaTyrLys-175
 185-GluAspIleAlaAsnArgMetSer-192

Antigenic Index - Jameson-Wolf

18-AlaSerProLysAlaAspValGluLysGlyLysGlnVal-30
 40-AlaAlaAspGlyAsnSerGlyIle-47
 66-IleGlyIleArgAspGlyLysArgThrHisGlySerAlaAlaVal-80
 88-LeuSerAspGlnAspIle-93

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102-LysGlnGlnProLysSerGlyGluAlaAsnProLysGluAsnProGluLeuGly-119
 122-IleTyrArgGlyGlyLeuSerAspLysLysValPro-133
 139-HisGlyProSerGlyAlaGlyMetProGlyGlyGlySerGluIleGlnAla-155
 157-ProArgLeuGlyGlyGlnHisGln-164
 172-AsnAlaTyrLysSerGlyGlnArgLysAsnThrIleMetGluAspIleAlaAsnArgMetSerGluGluAsp
 LeuLysAla-198

Hydrophilic Regions - Hopp-Woods

18-AlaSerProLysAlaAspValGluLysGlyLysGlnVal-30
 40-AlaAlaAspGlyAsnSer-45
 67-GlyIleArgAspGlyLysArgThrHisGly-76
 89-SerAspGlnAspIle-93
 103-GlnGlnProLysSerGlyGluAlaAsnProLysGluAsnProGluLeuGly-119
 126-GlyLeuSerAspLysLysValPro-133
 175-LysSerGlyGlnArgLysAsnThrIleMetGluAspIleAlaAsnArgMetSerGluGluAspLeuLysAla
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a950

AMPHI Regions - AMPHI

33-GlyValHisLysSerAlaHisGly-40
 71-AlaThrValLysLysThrHisLysHisThrLysAla-82

Antigenic Index - Jameson-Wolf

1-MetAsnLysAsnIle-5
 23-AlaAlaAsnLysProAlaSerAsnAlaThrGlyValHisLysSerAlaHisGlySerCysGlyAlaSerLysS
 erAlaGluGlySerCysGlyAlaAlaGlySerLysAlaGlyGluGlyLysCysGlyGluGlyLysCysGlyAlaTh
 rValLysLysThrHisLysHisThrLysAlaSerLysAlaLysAlaLysSerAlaGluGlyLysCysGlyGluGly
 LysCysGlySerLys-102

Hydrophilic Regions - Hopp-Woods

23-AlaAlaAsnLysProAlaSer-29
 33-GlyValHisLysSerAlaHis-39
 43-GlyAlaSerLysSerAlaGluGlySerCys-52
 55-AlaGlySerLysAlaGlyGluGlyLysCysGlyGluGlyLysCys-69
 71-AlaThrValLysLysThrHisLysHisThrLysAlaSerLysAlaLysAlaLysSerAlaGluGlyLysCysG
 lyGluGlyLysCysGlySerLys-102

a951**AMPHI Regions - AMPHI**

7-ThrIleLeuSerValLeuAlaAla-14
 28-AspAlaLysProProLysGluValGlyLysValPheArgLysGlnGlnArgTyr-45
 60-ValGlyGluArgValAsn-65

125-TrpArgGlnIleGluProIleProGlyLys-134
 153-HisLeuAspGlyLeuGluGluValLeuAla-162
 187-AlaGlnLysAlaSerLysAlaValArgArg-196
 202-GluHisLeuProGluAlaAla-208
 226-GlyAlaLeuGlnArgLeuAlaLysLeu-234
 252-LysTyrProGluIleLeuAspGlyPhePheGlu-262

276-MetGluIleMetAsnLeuValSerLeuHisArgLeuAspAspAla-290
 323-ValIleAspGlyTyrAlaGluLys-330

360-ValArgGlnTrpLeuLys-365
 393-AlaLeuArgGlnIleGlyArgValArgLysLeuProGluGlnGln-407

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414-AspAsnLeuSerLysIle-419

421-MetPheAlaLeuSer-425

432-GluAlaLeuArgGlyLeuAspLysIleIleGluLys-443

475-SerAspLeuGluArgAlaPheArg-482

493-AsnLeuGlyTyrSer-497

501-AspSerLysArgLeu-505

561-HisLeuGlyGluVal-565

577-AspValTrpThrGlnAla-582

592-TrpArgGluThrLeu-596

Antigenic Index - Jameson-Wolf

26-AlaAlaAspAlaLysProProLysGluValGlyLysValPheArgLysGlnGlnArgTyrSerGluGluIleLysAsnGluArgAlaArgLeu-57

59-AlaValGlyGluArgValAsn-65

75-ThrAlaLeuGlnLysGlyGlnAla-82

94-GluArgThrLysSerProGluValAlaGluArgAlaLeuGlu-107

124-LysTrpArgGlnIleGluProIleProGlyLysAlaGlnLysArgAlaGlyTrpLeuArgAsnValLeuArgGluArgGlyAsnGlnHisLeuAspGlyLeuGluGluValLeuAlaGlnAlaAspGluGlyGlnAsnArgArg-171

181-ValGlnGlnAspGlyLeuAlaGlnLysAlaSerLysAlaValArgArgAlaAlaLeuArg-200

217-GlnGlyArgGluLysGluLysAlaIle-225

230-ArgLeuAlaLysLeuAspThrGluIleLeuPro-240

248-LeuThrAlaArgLysTyrProGluIleLeuAspGlyPhePheGluGlnThrAspThrGlnAsn-268

285-HisArgLeuAspAspAlaTyrAla-292

298-LeuGluArgAsnProAsnAlaAsp-305

315-AlaAsnArgLysGluGlyAlaSer-322

326-GlyTyrAlaGluLysAlaTyrGlyArgGlyThrGlyGluGlnArgGlyArgAla-343

352-AlaAspArgArgAspTyrThrLysValArgGlnTrpLeuLysLysValSerAlaPro-370

373-LeuPheAspLysGlyVal-378

385-ValGluLeuAspGlyGlyArgAlaAlaLeu-394

396-GlnIleGlyArgValArgLysLeuProGluGlnGlnGlyArgTyrPheThr-412

426-LysLeuProAspLysArgGluAlaLeuArgGlyLeuAspLysIleIleGluLysProProAlaGlySerAsnThrGluLeuGlnAla-454

466-ArgLeuGlyLysArgLysLysMetIleSerAspLeuGluArgAlaPheArgLeuAlaProAspAsn-487

499-LeuSerAspSerLysArgLeuAspGluGlyPhe-509

518-IleAsnProAspAspThrAlaValAsnAspSerIle-529

535-LeuLysGlyAspAlaGluSerAla-542

547-ArgTyrSerPheGluAsnAspProGluProGluVal-558

570-GlyGluArgAspGlnAla-575

584-HisLeuThrGlyAspLysLysIleTrpArgGluThrLeuLysArgHisGlyIleAlaLeuProGlnProSerArgLysProArgLys-612

Hydrophilic Regions - Hopp-Woods

26-AlaAlaAspAlaLysProProLysGluValGlyLysValPheArgLysGlnGlnArgTyrSerGluGluIleLysAsnGluArgAlaArgLeu-57

59-AlaValGlyGluArgValAsn-65

75-ThrAlaLeuGlnLysGlyGlnAla-82

94-GluArgThrLysSerProGluValAlaGluArgAlaLeuGlu-107

131-IleProGlyLysAlaGlnLysArgAlaGlyTrp-141

145-ValLeuArgGluArgGlyAsnGlnHis-153

155-AspGlyLeuGluGluValLeuAlaGlnAlaAspGluGlyGlnAsnArgArg-171

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185-GlyLeuAlaGlnLysAlaSerLysAlaValArgArgAlaAlaLeuArg-200
 217-GlnGlyArgGluLysGluLysAlaIle-225
 230-ArgLeuAlaLysLeuAspThrGluIle-238
 248-LeuThrAlaArgLysTyrProGluIle-256
 261-PheGluGlnThrAspThrGlnAsn-268
 285-HisArgLeuAspAspAlaTyrAla-292
 298-LeuGluArgAsnProAsn-303
 315-AlaAsnArgLysGluGlyAlaSer-322
 327-TyrAlaGluLysAlaTyrGly-333

335-GlyThrGlyGluGlnArgGlyArgAla-343
 352-AlaAspArgArgAspTyrThrLys-359
 385-ValGluLeuAspGlyGlyArgAlaAlaLeu-394

396-GlnIleGlyArgValArgLysLeuProGluGlnGlnGly-408
 426-LysLeuProAspLysArgGluAlaLeuArgGlyLeuAspLysIleIleGluLysProProAla-446

448-SerAsnThrGluLeuGlnAla-454
 466-ArgLeuGlyLysArgLysLysMetIleSerAspLeuGluArgAlaPheArgLeuAlaProAspAsn-487
 500-SerAspSerLysArgLeuAspGlu-507
 519-AsnProAspAspThrAlaVal-525
 537-GlyAspAlaGluSer-541
 550-PheGluAsnAspProGluProGluVal-558
 570-GlyGluArgAspGlnAla-575
 586-ThrGlyAspLysLysIleTrpArgGluThrLeuLysArgHisGly-600
 605-GlnProSerArgLysProArgLys-612

a952**AMPHI Regions - AMPHI**

63-SerValAlaThrLeuLeuAsnAsnPheTyrGlyGln-74
 81-ValLeuLysLysLeuAsp-86
 94-PheGluAspMetArgArgIle-100
 116-GluGlnLeuAlaGlnLeu-121
 138-SerValLeuArgGlyIleAsp-144

Antigenic Index - Jameson-Wolf

40-GlnSerTrpLysGluArgArgAspPheAsnIleValLysGlnAspLeuAspPheSerCys-59
 70-AsnPheTyrGlyGlnThrLeuThrGluGluGluValLeuLysLysLeuAspLysGluGlnMetArgAlaSerPheGluAspMetArgArgIleMetPro-102
 104-LeuGlyPheGluAlaLysGlyTyr-111
 129-LeuLysTyrArgLysAspAspHisPheSer-138
 141-ArgGlyIleAspGlyAsnThr-147
 169-TrpGlnThrArgGluGlyAsnLeuAla-177
 184-ValProLysLysAlaGluThrIleSer-192
 199-HisHisProLysArgGlnThrGlu-206
 213-ArgGlnAlaArgAlaGlu-218

Hydrophilic Regions - Hopp-Woods

41-SerTrpLysGluArgArgAspPheAsnIleValLysGlnAspLeuAspPhe-57
 76-LeuThrGluGluGluValLeuLysLysLeuAspLysGluGlnMetArgAlaSerPheGluAspMetArgArgIleMetPro-102
 104-LeuGlyPheGluAlaLysGly-110
 130-LysTyrArgLysAspAspHisPheSer-138
 169-TrpGlnThrArgGluGlyAsnLeu-176
 184-ValProLysLysAlaGluThrIleSer-192
 200-HisProLysArgGlnThrGlu-206

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213-ArgGlnAlaArgAlaGlu-218

a953**AMPHI Regions** - AMPHI

39-AsnThrSerThrAsnValGlyGlyPheTyrGlyLeuThr-51

75-GlnSerGlySerGlnHisPheThrAspHisLeuLysSerAlaAspIlePheAspAlaAlaGln-95

151-GlyAspPheSerThrThr-156

Antigenic Index - Jameson-Wolf

22-TyrLysValAspGluTyrHisAla-29

38-PheAsnThrSerThrAsnVal-44

54-ValGluPheAspGlnAlaLysArgAspGlyLysIleAspIle-67

83-AspHisLeuLysSer-87

95-GlnTyrProAspIleArgPheValSer-103

105-LysPheAsnPheAsnGlyLysLysLeuValSer-115

122-MetHisGlyLysThrAlaProValLysLeuLysAlaGluLys-135

137-AsnCysTyrGlnSerProMetLeuLys-145

147-GluValCysGlyGlyAsp-152

154-SerThrThrIleAspArgThrLysTrpGly-163

174-LysSerValArgIle-178

180-IleGlnIleGluAlaAlaLysGln-187

Hydrophilic Regions - Hopp-Woods

22-TyrLysValAspGluTyrHisAla-29

54-ValGluPheAspGlnAlaLysArgAspGlyLysIleAspIle-67

83-AspHisLeuLysSer-87

108-PheAsnGlyLysLysLeuValSer-115

125-LysThrAlaProValLysLeuLysAlaGluLys-135

155-ThrThrIleAspArgThrLysTrp-162

174-LysSerValArgIle-178

180-IleGlnIleGluAlaAlaLysGln-187

a957**AMPHI Regions** - AMPHI

11-SerPhePheAlaLeuValPheAla-18

45-AlaPheValAlaLysLeuAlaArgLeuPheArgAsnAla-57

71-GluGluSerLeuAlaGlyAlaValAspAsp-80

195-GluAspValTyrGluHisCysLeuGlyCysTyrGlnMet-207

215-TyrArgAspValAlaAsnAspGlu-222

232-SerAsnArgIleAlaSer-237

246-GlnAsnMetArgGluLeuMetProArg-254

352-GluLysGluValSerArgTyrAlaGluAlaAlaAlaArg-364

Antigenic Index - Jameson-Wolf

29-IleAsnProArgTrp-33

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35-LeuSerAspThrAlaThrGluAsnProAsn-44
 54-PheArgAsnAlaAspArgAla-60
 64-ValLysGluSerMetArgThrGluGluSerLeu-74
 77-AlaValAspAspGlyProLeuGlnSerGluLysAspTyr-89
 95-ArgLeuSerArgLeuLysGluLysAlaLys-104
 109-ThrGluGlnGluHisGlyGlu-115

 122-TyrIleGlyGluGlyGly-127
 133-LeuSerGlnArgSerProGluAlaPheVal-142
 146-TyrLeuTyrArgAsnAspArgProPheSer-155
 163-ValHisGlyGluAsnTyrGluThrThrGlyGluTyrArgVal-176
 179-GlnProAspGlySerValPheAspAlaSerGlyArgGlyLysIleGlyGluAspValTyr-198
 214-LysTyrArgAspValAlaAsnAspGluGlnLysValTrpAspPheArgGluGluSerAsnArgIleAlaSer
 AspSerArgAspSerValPhe-244
 247-AsnMetArgGluLeuMetProArgGlyMetLysAlaAsnSer-260
 265-TyrAspAlaAspGlyLeuProGln-272
 277-SerPheAspAsnGlyLysLysArgGlnSerPheGluTyrTyrLeuLysAsnGlyAsn-295
 306-LeuLysAlaAspGlyValThr-312
 326-LeuAspGlyGlyArgIleValArgGluGluLysGlnGlyAspArgLeuProAspPhe-344

 346-LeuAsnLeuGluAspLeuGluLysGluValSerArgTyrAlaGluAlaAlaAlaArgArgSerGlyGlyArg
 ArgAspLeuSerHis-374

Hydrophilic Regions - Hopp-Woods

38-ThrAlaThrGluAsnPro-43
 54-PheArgAsnAlaAspArgAla-60
 64-ValLysGluSerMetArgThrGluGluSerLeu-74
 77-AlaValAspAspGlyProLeuGlnSerGluLysAspTyr-89
 95-ArgLeuSerArgLeuLysGluLysAlaLys-104
 109-ThrGluGlnGluHisGlyGlu-115
 133-LeuSerGlnArgSerProGlu-139
 148-TyrArgAsnAspArgProPhe-154
 166-GluAsnTyrGluThrThrGlyGluTyr-174
 187-AlaSerGlyArgGlyLysIleGlyGluAspValTyr-198
 214-LysTyrArgAspValAlaAsnAspGluGlnLysValTrpAspPheArgGluGluSerAsnArgIleAlaSer
 AspSerArgAspSerVal-243
 247-AsnMetArgGluLeuMetProArgGlyMetLys-257
 265-TyrAspAlaAspGlyLeuPro-271
 279-AspAsnGlyLysLysArgGlnSer-286
 306-LeuLysAlaAspGlyValThr-312
 328-GlyGlyArgIleValArgGluGluLysGlnGlyAspArgLeuPro-342
 346-LeuAsnLeuGluAspLeuGluLysGluValSerArgTyrAlaGluAlaAlaAlaArgArgSerGlyGlyArg
 ArgAspLeuSerHis-374

a958**AMPHI Regions - AMPHI**

39-GlyGlySerValArgSerValSerGluProIleGln-50
 86-ProGluAspTyrThrArgIleValAlaAsp-95
 127-TyrAspGlnSerGlyAsp-132
 177-ArgArgLeuGlnSerValSerArgThrAlaGluMet-188
 343-IleSerAspThrLeuGln-348
 483-TyrTyrSerLeuAsnArgPhe-489
 491-SerGlnGluAlaArgArgVal-497
 500-ThrLeuProIleVal-504

541-GlnAsnAspLeuProAsnPheAsp-548
 572-AsnThrAlaAsnSerLeuSerAlaAlaValGlnSer-583
 693-AspLysLeuSerGln-697
 723-LysLysProIleGlu-727
 769-AspLeuSerSerValGlyArgAsnPro-777

Antigenic Index - Jameson-Wolf

18-PheGlyThrHisCys-22
 28-ValAlaAlaGluGluThrAspAsnProThrAlaGlyGlySerValArgSerValSerGluProIleGln-50
 55-SerLeuGlySerThr-59
 63-CysSerAsnGluSerGlySerProGluArgThrGluAlaAlaValGlnGlySerGlyGluAlaSerIleProGluAspTyrThrArgIleValAlaAspArgMetGluGlyGlnSerGlnValGlnValArgAlaGluGly-109
 111-ValValValGluArgAsnArgThrThrLeuAsn-121
 123-AspTrpAlaAspTyrAspGlnSerGlyAspThrValThrAlaGlyAspArgPheAlaLeuGlnGlnAspGlyThrLeuIleArgGlyGluThrLeu-154
 158-LeuGluGlnGlnThrGlyGluAlaHisAsnValArgMetGluThrGluHisGlyGlyArgArgLeuGlnSerValSerArgThrAlaGluMetLeuGlyGluGlyHisTyrLysLeuThrGluThrGlnPheAsnThrCysSerAlaGlyAspAlaGlyTrp-211
 216-AlaSerValGluAlaAspArgGluLysGlyIleGly-227
 249-PheProLeuAspGlyAsnArgLysSerGlyLeu-259
 265-SerAlaGlySerAspGlyVal-271
 292-GlyValIleGlyGluArgGlyAlaValPheAspGlyGlnValArgTyrLeuArgProAspTyrAlaGlyGlnSerAsp-317
 321-LeuProHisAspLysLysSerGlyArgAsnAsnArgTyrGlnAla-335
 337-TrpGlnHisArgHisAspIleSerAspThrLeu-347
 352-AspPheAsnGlnValSerAspSerGlyTyrArgAspPheTyrGlyAsnLysGluIleAlaGlyAsnValAsnLeuAsnArgArgValTrp-382
 384-AspTyrGlyGlyArgAlaAlaGlyGlySerLeu-394
 407-AlaAsnGlnSerGlyTyrLysAspLysProTyr-417
 422-ArgLeuSerAlaAspTrpArgLysAsnThrGlyArgAla-434
 444-ArgPheSerHisAspSerArgGlnAspGlySerArg-455
 460-ProAspIleLysTrpAspPheSerAsnSerTrpGly-471
 487-AsnArgPheGlySerGlnGluAlaArgArgValSerArg-499
 507-AspSerGlyMetThrPheGluArgAsnThrArgMetPheGlyGlyGly-522
 525-GlnThrLeuGluProArg-530
 538-AlaLysSerGlnAsnAspLeuProAsnPheAspSerSerGluSerSerPheGly-555
 560-PheArgGluAsnLeuTyrTyrGlyAsnAspArgIleAsnThrAlaAsnSer-576
 581-ValGlnSerArgIleLeuAspGlyAlaThrGlyGluGluArgPheArgAlaGlyIleGlyGlnLysPheTyrPheLysAsnAspAlaValMetLeuAspGlySerValGlyLysLysProArgSerArgSerAspTrp-626
 631-SerSerGlyIleGlySerArgPheIleLeuAspSerSerIleHisTyrAsnGlnAsnAspLysArgAlaGluAsn-655
 660-AlaSerTyrArgProAlaGlnGlyLysValLeuAsnAlaArgTyrLysTyrGlyArgAsnGluLysIleTyrLeuLysSerAspGlySerTyrPhe-691
 693-AspLysLeuSerGln-697
 718-TyrGlyPheGluAlaLysLysProIleGlu-727
 732-AlaGluTyrLysSerSerCysGlyCysTrp-741
 751-ValThrGlyGluAsnThrTyrLysAsn-759
 766-GlnLeuLysAspLeuSerSerValGlyArgAsnProAlaAspArgMetAspVal-783

Hydrophilic Regions - Hopp-Woods

28-ValAlaAlaGluGluThrAspAsnProThr-37
 40-GlySerValArgSerValSerGluProIleGln-50
 65-AsnGluSerGlySerProGluArgThrGluAlaAlaVal-77
 79-GlySerGlyGluAlaSerIleProGluAspTyrThr-90
 93-ValAlaAspArgMetGluGlyGlnSer-101

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103-ValGlnValArgAlaGluGly-109
 111-ValValValGluArgAsnArgThrThrLeu-120
 125-AlaAspTyrAspGlnSerGlyAspThrValThrAlaGlyAspArgPheAlaLeu-142
 147-ThrLeuIleArgGlyGluThr-153
 160-GlnGlnThrGlyGluAlaHisAsnValArgMetGluThrGluHisGlyGlyArgArgLeuGlnSerValSer
 ArgThrAlaGluMetLeuGly-190
 192-GlyHisTyrLysLeuThrGlu-198
 216-AlaSerValGluAlaAspArgGluLysGlyIleGly-227
 250-ProLeuAspGlyAsnArgLysSerGly-258
 266-AlaGlySerAspGlyVal-271
 294-IleGlyGluArgGlyAlaVal-300
 305-ValArgTyrLeuArg-309
 323-HisAspLysLysSerGlyArgAsnAsnArgTyrGlnAla-335
 337-TrpGlnHisArgHisAspIleSerAsp-345
 410-SerGlyTyrLysAspLysProTyr-417
 423-LeuSerAlaAspTrpArgLysAsnThrGlyArgAla-434
 445-PheSerHisAspSerArgGlnAspGlySerArg-455
 490-GlySerGlnGluAlaArgArgValSerArg-499
 510-MetThrPheGluArgAsnThrArg-517
 539-LysSerGlnAsnAsp-543
 548-AspSerSerGluSer-552
 569-AspArgIleAsnThr-573
 589-AlaThrGlyGluGluArgPheArgAla-597
 615-SerValGlyLysLysProArgSerArgSerAsp-625
 648-GlnAsnAspLysArgAlaGluAsn-655
 662-TyrArgProAlaGln-666
 674-TyrLysTyrGlyArgAsnGluLysIleTyrLeuLysSerAspGly-688
 720-PheGluAlaLysLysProIleGlu-727
 732-AlaGluTyrLysSer-736
 766-GlnLeuLysAspLeuSerSerValGlyArgAsnProAlaAspArgMetAspVal-783

a959**AMPHI Regions - AMPHI**

56-AlaAlaLeuAlaArgValGlyGly-63

Antigenic Index - Jameson-Wolf

24-AlaHisHisAspGlyHisGlyAspAspHisGlyHis-36
 40-GlnHisSerLysGlnAspLysIleIleSer-49
 51-AlaGlnAlaGluLysAlaAlaLeu-58
 60-ArgValGlyGlyLysIleThrAspIleAspLeuGluHisAspAsnGlyArgProHisTyrAspValGluIleVal
 alLysAsnGlyGlnGluTyr-90
 94-ValAspAlaArgThrGlyArgValIleSerSerArgArgAspAsp-108

Hydrophilic Regions - Hopp-Woods

27-AspGlyHisGlyAspAspAspHisGlyHis-36
 40-GlnHisSerLysGlnAspLysIleIleSer-49
 51-AlaGlnAlaGluLysAlaAlaLeu-58
 61-ValGlyGlyLysIleThrAspIleAspLeuGluHisAspAsnGlyArgProHisTyr-79
 82-GluIleValLysAsnGlyGlnGluTyr-90
 94-ValAspAlaArgThrGlyArg-100
 102-IleSerSerArgArgAspAsp-108

a972**AMPHI Regions - AMPHI**

15-SerSerGluArgMetSerGluValGluTyrPheSerHis-27
 83-ArgLysLeuGluGluIleLeuGly-90
 100-ArgGlyAsnLysPheTyrGluSerMetTyrArgLeu-111

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154-LeuAspAspSerIleArg-159
 226-PheValArgValTyrGluLysGly-233
 275-IleCysArgLysPheLysAsnMetProValPro-285
 308-AsnAlaValGlyLysLeuValAsnPhe-316
 326-GluIleValGluSerLeuLysAla-333
 336-GlyPheProLysGlyLeuGlu-342
 348-LeuGluMetLeuArgAspGlyLeuLys-356
 382-AsnSerAspLysPheAspArg-388

Antigenic Index - Jameson-Wolf

1-LeuThrAsnArgGlyGlyAlaLysLeuLysThrAsnSerLysSerSerGluArgMetSerGlu-21
 29-IleSerAspGlyLysGlyLysLeuLeuGluIleProGlnArgArgGlyLysGlnAspGlyVal-49
 62-ThrLeuLeuLysValSerGly-68
 83-ArgLysLeuGluGlu-87
 93-IleThrArgLysCysLysSerArgGlyAsnLysPheTyrGlu-106
 108-MetTyrArgLeuGlySerAspValAspTyrGly-119
 122-HisPheGlyGlyGlnArgAsnThrVal-130
 134-LeuLysGlyThrGlyCys-139
 152-GlnPheLeuAspAspSerIleArgThrArgIleThrArg-164
 172-PheAspGlyGluTyrThrProAspGlnAlaLeuLeuAspHisAspAsnGlyPhePheAspAsnSerAsnGln
 ArgProLysSerGluThrIleGly-203
 205-AlaTrpArgAsnGluAspGlySerGlyLys-214
 217-TyrValGlyArgLysLysAsnSerArgPhe-226
 228-ArgValTyrGluLysGlyArgGlnLeuGlyAspLysGluSerLysTrpVal-244
 251-AsnTyrGlyAspIleGluIle-257
 263-IleAsnGlnGlySer-267
 275-IleCysArgLysPheLysAsnMetProValProGluArgPheAspGlnArgLysLysThrLeu-295
 321-GlyPheAspAsnSerGluIleValGluSerLeuLysAlaAspSerGlyPheProLysGlyLeuGluProGlu
 LysTyrAla-347
 350-MetLeuArgAspGlyLeuLys-356
 361-HisGluGlnProAspIleAspLeuGluIleGluLeuAspGlu-374
 380-PheLysAsnSerAspLysPheAspArgGluLysArgLeuPheSerProAspTyrAspValGluLysGluArg
 LysTyrGlnGluTyrLeu-409
 417-ValAspTyrAspTyrPhe-422

Hydrophilic Regions - Hopp-Woods

1-LeuThrAsnArgGlyGlyAlaLysLeuLysThrAsnSerLysSerSerGluArgMetSerGlu-21
 30-SerAspGlyLysGlyLysLeuLeuGluIleProGlnArgArgGlyLysGlnAspGlyVal-49
 83-ArgLysLeuGluGlu-87
 93-IleThrArgLysCysLysSerArgGlyAsnLysPheTyr-105
 111-LeuGlySerAspValAspTyrGly-119
 134-LeuLysGlyThrGly-138
 152-GlnPheLeuAspAspSerIleArgThrArgIleThrArg-164
 181-AlaLeuLeuAspHisAspAsnGlyPhe-189
 193-SerAsnGlnArgProLysSerGluThrIle-202
 206-TrpArgAsnGluAspGlySerGly-213
 219-GlyArgLysLysAsnSerArgPhe-226
 228-ArgValTyrGluLysGlyArgGlnLeuGlyAspLysGluSerLysTrpVal-244
 277-ArgLysPheLysAsn-281
 283-ProValProGluArgPheAspGlnArgLysLysThrLeu-295
 321-GlyPheAspAsnSerGluIleValGluSerLeuLysAlaAspSerGlyPhe-337
 339-LysGlyLeuGluProGluLysTyrAla-347
 350-MetLeuArgAspGlyLeuLys-356
 362-GluGlnProAspIleAspLeuGluIleGluLeuAspGlu-374
 381-LysAsnSerAspLysPheAspArgGluLysArgLeuPhe-393

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396-AspTyrAspValGluLysGluArgLysTyrGlnGluTyrLeu-409
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AMPHI Regions - AMPHI

12-GluArgLeuIleAlaArgLeuAlaArgGluProAspSerAla-25
44-AspThrLeuLeuArgLeuGluLysValLeuAspPhe-55
77-AspSerIleGluArgIleThrAlaTyr-85
112-AspLeuLeuLysTyrMet-117
143-AlaLeuLeuLysGluPheArgGluGln-151
171-PheGluAspIleIleGluGlnIleValGlyAspIleGluAsp-184
208-AlaThrGluIleGluAspIleAsnAlaPhe-217
235-IleGlnGluLeuGly-239

Antigenic Index - Jameson-Wolf

1-MetAspGlyAlaGlnProLysThrAsnPhe-10
18-LeuAlaArgGluProAspSerAlaGluAsp-27
34-GlnAlaHisGluGlnGluValPheAspAlaAspThr-45
47-LeuArgLeuGluLysValLeuAsp-54
56-SerAspLeuGluValArgAspAlaMetIleThrArgSerArgMetAsnValLeuLysGluAsnAspSerIleGluArg-81
96-ValIleGlyGluAspLysAspGluVal-104
118-PheAsnProGluGlnPheHis-124
136-ProGluGlyLysSer-140
146-LysGluPheArgGluGlnArgAsnHis-154
159-IleAspGluTyrGlyGlyThrSerGly-167
178-IleValGlyAspIleGluAspGluPheAspGluAspGluSerAlaAspAsn-194
199-SerAlaGluArgTrpArg-204
209-ThrGluIleGluAsp-213
219-GlyThrGluTyrSerSerGluGluAlaAspThr-229
239-GlyHisLeuProValArgGlyGluLysValLeu-249
258-AlaArgAlaAspAsnArgArgLeuHis-266

Hydrophilic Regions - Hopp-Woods

1-MetAspGlyAlaGlnProLys-7
18-LeuAlaArgGluProAspSerAlaGluAsp-27
34-GlnAlaHisGluGlnGluValPheAsp-42
47-LeuArgLeuGluLysValLeuAsp-54
56-SerAspLeuGluValArgAspAlaMetIleThrArgSerArgMetAsnValLeuLysGluAsnAspSerIleGluArg-81
96-ValIleGlyGluAspLysAspGluVal-104
136-ProGluGlyLysSer-140
146-LysGluPheArgGluGlnArgAsn-153
178-IleValGlyAspIleGluAspGluPheAspGluAspGluSerAlaAspAsn-194
199-SerAlaGluArgTrpArg-204
209-ThrGluIleGluAsp-213
222-TyrSerSerGluGluAlaAspThr-229
243-ValArgGlyGluLysValLeu-249
258-AlaArgAlaAspAsnArgArgLeuHis-266

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AMPHI Regions - AMPHI

31-AlaAsnProAspLysValTyrArgValAlaSer-41
46-AlaProPheGluSerLeuAsp-52
66-AsnAlaMetAlaLys-70
132-LysIleSerSerSerGluAspLeuLysAsnMetAsnLysValGlyValVal-148
167-LysIleAlaArgPheGlu-172
181-LeuGluAsnGlyGlyLeuAspSerValVal-190

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197-AlaAsnTyrValLysAsnAsnPro-204
 207-GlyMetAspPheValThrLeuPro-214
 233-ValLysMetLeuAsnAspAlaLeuLysLysValArgGluSerGlyGluTyr-249

Antigenic Index - Jameson-Wolf

19-CysGlyGlyGlnGlyLysAspAlaAlaAla-28
 31-AlaAsnProAspLysValTyrArg-38
 49-GluSerLeuAspSerLysGlyAsnValGluGlyPheAsp-61
 76-IleGluPheLysHisGlnProTrpAspSer-85
 90-LeuAsnAsnGlyAspAlaAspVal-97
 104-IleThrAspAspArgLysGlnSerMetAspPheSerAspProTyrPhe-119
 127-ValProLysGlyLysLysIleSerSerSerGluAspLeuLysAsnMetAsnLys-144
 160-LeuLeuGlyAsnAspAsnProLysIleAlaArg-170
 179-LysGluLeuGluAsnGlyGlyLeuAspSerValValSerAspSerAla-194
 201-LysAsnAsnProThrLysGlyMetAspPhe-210
 214-ProAspPheThrThr-218
 225-ValArgLysGlyAspGluAlaThrVal-233
 235-MetLeuAsnAspAlaLeuLysLysValArgGluSerGlyGluTyrAspLysIleTyr-253
 257-PheAlaLysGluAspGlyGlnAlaAlaLys-266

Hydrophilic Regions - Hopp-Woods

21-GlyGlnGlyLysAspAlaAlaAla-28
 31-AlaAsnProAspLysValTyrArg-38
 49-GluSerLeuAspSerLysGlyAsnValGluGlyPheAsp-61
 91-AsnAsnGlyAspAlaAspVal-97
 104-IleThrAspAspArgLysGlnSerMetAspPheSer-115
 128-ProLysGlyLysLysIleSerSerSerGluAspLeuLysAsnMetAsn-143
 164-AspAsnProLysIleAlaArg-170
 179-LysGluLeuGluAsnGlyGlyLeu-186
 203-AsnProThrLysGlyMetAsp-209
 225-ValArgLysGlyAspGluAlaThrVal-233
 235-MetLeuAsnAspAlaLeuLysLysValArgGluSerGlyGluTyrAspLysIleTyr-253
 257-PheAlaLysGluAspGlyGlnAlaAlaLys-266

a982**AMPHI Regions - AMPHI**

12-ValArgGlnLysMetValAsnGlyValAsnIleLeuAlaAsnAlaVal-27
 71-AlaGlnMetValLysGluValAlaSerLysThr-81
 100-ValAlaGluGlyMetLysTyr-106
 115-AspLeuLysArgGlyIleAspLysAlaValAlaAlaLeuValGluGluLeuLysAsnIleAlaLysProCys
 AspThrSerLysGluIleAlaGlnValGlySer-149
 160-AlaIleIleAlaGluAlaMetGluLysValGly-170
 185-AsnGluLeuAspValValGluGlyMet-193
 209-GluLysGlnIleAlaGlyLeuAsp-216
 227-IleSerAsnIleArgAspLeuLeuProValLeuGluGlnValAlaLysAla-243
 265-AsnAsnIleArgGlyIleLeuLysThrValAla-275
 313-ThrLeuAspAspLeuGlyGlnAlaLysArgIle-323
 331-ThrIleIleAspGlyPheGlyAspAlaAla-340
 367-GluArgValAlaLysLeuAlaGlyGlyVal-376
 426-LeuGluAsnLeuHisThr-431
 444-LeuArgAlaValGluSerProLeuArgGlnIleValAlaAsnAla-458
 484-GluTyrGlyAspMetIleGluMet-491
 500-ThrArgSerAlaLeu-504

Antigenic Index - Jameson-Wolf

1-MetAlaAlaLysAspValGlnPhe-8

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10-AsnGluValArgGlnLysMetValAsn-18
 30-ThrLeuGlyProLysGlyArgAsnValValVal-40
 43-AlaPheGlyGlyProHisIleThrLysAspGlyValThrValAlaLysGluIleGluLeuLysAspLysPheGluAsnMetGly-70
 73-MetValLysGluValAlaSerLysThrAsnAspValAlaGlyAspGlyThrThr-90
 112-AsnProThrAspLeuLysArgGlyIleAspLysAlaVal-124
 129-GluGluLeuLysAsnIleAlaLysProCysAspThrSerLysGluIleAla-145
 150-IleSerAlaAsnSerAspGluGlnVal-158
 164-GluAlaMetGluLysValGlyLysGluGlyValIleThrValGluAspGlyLysSerLeuGluAsnGluLeuAspVal-189
 193-MetGlnPheAspArgGlyTyr-199
 207-AspAlaGluLysGlnIleAla-213
 223-PheAspLysLysIleSerAsnIleArgAsp-232
 239-GlnValAlaLysAlaSerArg-245
 252-GluAspValGluGlyGluAla-258
 266-AsnIleArgGlyIleLeu-271
 278-AlaProGlyPheGlyAspArgArgLysAlaMetLeu-289
 301-IleSerGluGluValGlyLeuSerLeuGluLysAlaThrLeuAspAspLeuGlyGlnAlaLysArgIleGluIleGlyLysGluAsnThrThr-331
 334-AspGlyPheGlyAspAlaAlaGlnIleGluAlaArgValAlaGluIleArgGlnGlnIleGluThrAlaThrSerAspTyrAspLysGluLysLeuGlnGluArgValAlaLysLeuAlaGly-374
 385-ThrGluValGluMetLysGluLysLysAspArgValGluAspAlaLeuHis-401
 405-AlaAlaValGluGluGlyVal-411
 421-ArgAlaArgAlaAlaLeu-426
 429-LeuHisThrGlyAsnAlaAspGlnAspAlaGlyVal-440
 446-AlaValGluSerProLeuArg-452
 457-AsnAlaGlyGlyGluProSerVal-464
 469-ValLeuGluGlyLysGlyAsnTyrGlyTyr-478
 480-AlaGlySerGlyGluTyrGlyAspMetIleGlu-490
 495-AspProAlaLysValThrArgSerAlaLeu-504
 523-GluIleProGluAspLysProAlaMetProAspMetGlyGly-536

Hydrophilic Regions - Hopp-Woods

1-MetAlaAlaLysAspValGlnPhe-8
 10-AsnGluValArgGlnLysMet-16
 33-ProLysGlyArgAsnValValVal-40
 48-HisIleThrLysAspGlyValThrValAlaLysGluIleGluLeuLysAspLysPheGluAsn-68
 73-MetValLysGluValAlaSerLysThrAsnAspValAlaGlyAspGlyThrThr-90
 114-ThrAspLeuLysArgGlyIleAspLysAlaVal-124
 129-GluGluLeuLysAsnIleAlaLysProCysAspThrSerLysGluIleAla-145
 152-AlaAsnSerAspGluGlnVal-158
 164-GluAlaMetGluLysValGlyLysGluGlyValIleThrValGluAspGlyLysSerLeuGluAsnGluLeuAspVal-189
 207-AspAlaGluLysGlnIleAla-213
 223-PheAspLysLysIleSerAsnIleArgAsp-232
 239-GlnValAlaLysAlaSerArg-245
 252-GluAspValGluGlyGluAla-258
 280-GlyPheGlyAspArgArgLysAlaMetLeu-289
 301-IleSerGluGluValGlyLeuSerLeuGluLysAlaThrLeuAspAspLeuGlyGlnAlaLysArgIleGluIleGlyLysGluAsnThrThr-331
 340-AlaGlnIleGluAlaArgValAlaGluIleArgGlnGlnIleGluThrAlaThrSerAspTyrAspLysGluLysLeuGlnGluArgValAlaLys-371
 385-ThrGluValGluMetLysGluLysLysAspArgValGluAspAlaLeuHis-401
 405-AlaAlaValGluGluGlyVal-411
 421-ArgAlaArgAlaAlaLeu-426

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432-GlyAsnAlaAspGlnAspAla-438
 446-AlaValGluSerProLeu-451
 458-AlaGlyGlyGluPro-462
 469-ValLeuGluGlyLysGly-474
 481-GlySerGlyGluTyrGlyAsp-487
 495-AspProAlaLysValThrArg-501
 523-GluIleProGluAspLysProAlaMet-531
a986
AMPHI Regions - AMPHI
 6-GlnTyrLeuAlaLeuAla-11
 18-LeuAlaGlyCysAspLysAlaGly-25
 36-SerPheValGluArgIleLysHis-43
 52-MetLeuLeuProAspPheValGlnLeuVal-61
 97-AspProPheTyrGluPhePheLysArgLeuValProAsnMetProGluIleProGln-115
 145-ThrGlyMetGlySerIle-150
 162-AlaLysLeuIleGlySerAspVal-169
 189-IleGlyAsnProLysAspLeuLysProGly-198
 200-TrpValAlaAlaIleGly-205
 287-AlaGluGlnLeuLysAsnThrGlyLysVal-296
 393-AlaAlaGluHisIleGlyAlaSer-400
 471-ArgLysAlaMetAspLysAla-477

Antigenic Index - Jameson-Wolf

1-ValPheLysLysTyr-5
 20-GlyCysAspLysAlaGly-25
 29-GlyAlaAspLysLysGluAlaSerPheValGluArgIleLysHisThrLysAspAspGlySerVal-50
 61-ValGlnSerGluGlyProAla-67
 75-ProAlaProArgThrGlnAsnGlySerSerAsnAlaGluThrAspSerAspProLeuAlaAspSerAspPro
 he-99
 104-LysArgLeuValProAsnMetProGluIleProGlnGluGluAlaAspAspGlyGlyLeu-123
 130-IleIleSerLysAspGlyTyr-136
 154-LeuAsnAspLysArgGluTyrThr-161
 165-IleGlySerAspValGlnSerAspValAla-174
 179-AspAlaThrGluGluLeuPro-185
 189-IleGlyAsnProLysAspLeuLysProGlyGlu-199
 208-PheGlyPheAspAsnSerValThr-215
 218-XxxValSerAlaLysGlyArgSerLeuProAsnGluSerTyr-231
 242-AsnProGlyAsnSerGlyGlyPro-249
 265-TyrSerArgSerGlyGly-270
 288-GluGlnLeuLysAsnThrGlyLysValGlnArgGlyGlnLeu-301
 316-PheGlyLeuAspLysAlaGlyGly-323
 330-LeuProGlySerProAlaGluArgAlaGlyLeuArgAlaGlyAsp-344
 349-LeuAspGlyGlyGluIleArgSerSerGlyAspLeu-360
 368-ThrProGlyLysGluValSer-374
 378-TrpArgLysGlyGluGluIleThrIle-386
 397-IleGlyAlaSerSerLysThrAspGluAlaProTyrThrGluGlnGlnSerGlyThrPhe-416
 427-ThrHisThrAspSerSerGlyGly-434
 440-ArgValSerAspAlaAlaGluArgAlaGlyLeuArgArgGlyAspGluIleLeu-457
 463-ProValAsnAspGluAlaGlyPheArgLysAlaMetAspLysAlaGlyLysAsnVal-481
 486-MetArgArgGlyAsnThr-491

Hydrophilic Regions - Hopp-Woods

20-GlyCysAspLysAlaGly-25
 29-GlyAlaAspLysLysGluAlaSerPheValGluArgIleLysHisThrLysAspAspGlySer-49

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75-ProAlaProArgThrGlnAsnGlySerSerAsnAlaGluThrAspSerAspProLeuAlaAspSerAspPro-
98
111-ProGluIleProGlnGluGluAlaAspAspGlyGly-122
131-IleSerLysAspGly-135
154-LeuAsnAspLysArgGluTyrThr-161
179-AspAlaThrGluGluLeuPro-185
190-GlyAsnProLysAspLeuLysPro-197
219-ValSerAlaLysGlyArgSerLeuPro-227
288-GluGlnLeuLysAsnThrGlyLysValGlnArgGlyGln-300
317-GlyLeuAspLysAlaGly-322
333-SerProAlaGluArgAlaGlyLeuArgAlaGlyAsp-344
350-AspGlyGlyGluIleArgSerSerGlyAsp-359
368-ThrProGlyLysGluValSer-374
379-ArgLysGlyGluGluIleThrIle-386
397-IleGlyAlaSerSerLysThrAspGluAlaProTyrThrGluGlnGlnSer-413
428-HisThrAspSerSerGly-433
440-ArgValSerAspAlaAlaGluArgAlaGlyLeuArgArgGlyAspGluIleLeu-457
463-ProValAsnAspGluAlaGlyPheArgLysAlaMetAspLysAlaGlyLys-479
a987

AMPHI Regions - AMPHI

17-CysSerSerTrpLeu-21
33-PheAsnThrSerLysProValArgLeuAspAsnIleLeuGlnIle-47
65-ProHisGluAlaPhe-69
144-AsnProPheValLeuArgLysTrpArgAlaLeuGlyTyrLeuThrAspPheProArgLeuAsnArg-165
187-GlyAspGluTyrPheLysVal-193
202-LeuAspIleLeuAlaThr-207
211-ValGlyGluValSerHisAspPheAspArgTyrTrpAla-223
230-AlaThrArgIleIleArgSerGly-237
239-IleGlyLysGlyLeuGlnAla-245
289-SerAspAspProAlaLysGlyLeuAspArg-298
307-GlyArgLeuGlnAspAlaLeuLysGlnPro-316
333-GlyThrAspAlaLeuAlaLysLeuValGlnAsp-343
355-GlnAlaThrAspValAlaAla-361
443-LysIleAlaGluGlnMetGluArgThrLeuAlaAspThr-455
486-ProGluAlaLysLeuTrpLysArgIleAlaAlaLysIleLeuSerLeuLeuProIleGluSerLeu-507

Antigenic Index - Jameson-Wolf

1-MetLysThrArgSer-5
23-ProLeuGluGluArgThrGluSerArgHisPheAsnThrSerLysProValArgLeu-41
49-HisThrProHisThrAsnGlyLeuSer-57
77-GluSerAlaGluHisSerLeu-83
90-TrpArgAsnAspIleSerGlyArgLeu-98
107-AlaGluArgGlyValArg-112
115-LeuLeuLeuAspAspAsnAsnThrArgGlyLeuAsp-126
134-SerHisProAsnIleGluValArgLeu-142
159-AspPheProArgLeuAsnArgArgMetHisAsnLysSerPheThrAlaAspAsnArgAla-178
182-GlyGlyArgAsnIleGlyAspGluTyrPheLysValGlyGluAspThrVal-198
214-ValSerHisAspPheAspArgTyrTrp-222
225-HisSerAlaHisAsn-229
232-ArgIleIleArgSerGlyAsnIleGlyLysGlyLeu-243
247-GlyTyrAsnAspGluThrSerArg-254
259-ArgTyrArgGluThrValGlu-265
267-SerProLeuTyrGln-271
273-IleGlnThrGlyArgIleAsp-279
287-LeuIleSerAspAspProAlaLysGlyLeuAspArgAspArgArgLysProProIle-305

-659-

308-ArgLeuGlnAspAlaLeuLysGlnProGluLysSer-319
 328-ValProThrLysSerGlyThrAspAlaLeu-337
 340-LeuValGlnAspGlyIleAsp-346
 367-ValLysTyrArgLysProLeuLeu-374
 391-AlaThrLysAspLysGlyLeuThrGlySerSer-401
 412-ValAspGlyLysArgIlePhe-418
 422-PheAsnLeuAspProArgSerAlaArgLeuAsnThr-433
 440-GluSerProLysIleAlaGluGlnMetGluArgThrLeuAlaAspThrSerProGluTyrAla-460
 463-ValThrLeuAspArgHisAsnArgLeuGlnTrpHisAspProAlaThrArgLysThrTyrProAsnGluPro
 GluAlaLysLeuTrpLys-492

Hydrophilic Regions - Hopp-Woods

1-MetLysThrArgSer-5
 24-LeuGluGluArgThrGluSerArgHisPheAsnThr-35
 37-LysProValArgLeu-41
 77-GluSerAlaGluHisSerLeu-83
 107-AlaGluArgGlyValArg-112
 115-LeuLeuLeuAspAspAsnAsnThrArgGlyLeuAsp-126
 161-ProArgLeuAsnArgArgMetHisAsn-169
 172-PheThrAlaAspAsnArgAla-178
 189-GluTyrPheLysValGlyGluAspThrVal-198
 214-ValSerHisAspPheAspArg-220
 248-TyrAsnAspGluThrSerArg-254
 259-ArgTyrArgGluThrValGlu-265
 274-GlnThrGlyArgIleAsp-279
 287-LeuIleSerAspAspProAlaLysGlyLeuAspArgAspArgArgLysProProIle-305
 308-ArgLeuGlnAspAlaLeuLysGlnProGluLysSer-319
 331-LysSerGlyThrAspAlaLeu-337
 340-LeuValGlnAspGlyIleAsp-346
 367-ValLysTyrArgLysProLeuLeu-374
 391-AlaThrLysAspLysGlyLeuThr-398
 424-LeuAspProArgSerAlaArgLeuAsnThr-433
 440-GluSerProLysIleAlaGluGlnMetGluArgThrLeuAlaAspThrSerPro-457
 464-ThrLeuAspArgHisAsnArg-470
 476-ProAlaThrArgLysThrTyrProAsnGluProGluAlaLysLeuTrpLys-492

a988**AMPHI Regions - AMPHI**

45-SerLysIleGluAlaLeu-50
 66-ArgArgLeuLysAlaMet-71
 125-GlnMetArgGlyIle-129
 154-AspIleValGluArgAlaGlnSerLysVal-163
 221-AlaLysIleIleGluValLeuGlyAspTyrAlaAsp-232
 248-HisGlnPheSerGluAlaCysAlaLysAlaAlaLysLysIleProAspHisValArgLys-267
 288-ThrAlaArgAspPheAspAsp-294
 299-GluLysIleGlyArgAsnTyrArg-306
 310-AlaIleAlaAspValSerHisTyrValArgProAspAsp-322
 348-AsnLeuSerAsnGly-352
 396-AsnGlnValTrpLysTrpLeuSer-403
 405-GlyIleGluHisPro-409
 411-LysThrGlnIleAspThrLeuTyrLysLeuPheLysIleLeuGlnLys-426
 494-LeuGlyProThrProGluLysLeuAlaAlaLeu-504
 524-LysAspTyrAlaAlaLeuAla-530
 544-ValMetMetLeuArgSerMetGlnGlnAla-553
 569-AlaTyrAlaHisPheThrSerProIleArgArgTyrProAspLeuThrValHisArgAlaIleLysAlaVal
 Leu-593

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619-AspAspAlaSerArgAspValGluAsnTrpLeuLys-630
 646-IleSerGlyMetThrSerPheGlyIlePheValThrLeu-658
 662-HisIleAspGlyLeuValHisIleSerAspLeuGlyGlu-674

Antigenic Index - Jameson-Wolf

1-MetAsnLysAsnIleLys-6
 8-LeuAsnLeuArgGluLysAspProPheLeuSerArgGluLysGlnArgTyrGluHisProLeuProSerArgGluTrpIle-34
 37-LeuLeuGluArgLysGlyValProSerLysIleGluAlaLeuValArg-52
 54-LeuSerIleLysGluGluGluTyrGluPheGluArgArgLeuLysAlaMetAlaArgAspGlyGln-76
 79-IleAsnArgArgGlyAlaVal-85
 87-AlaAlaAspLysLeuAspLeuValLysCysArgValLysAlaHisLysAspArgPheGlyPhe-107
 111-LeuThrProAlaLysAspGlyAsp-118
 124-ArgGlnMetArgGly-128
 140-AlaGlyMetAspGlyArgGlyArgGluGlyThrVal-152
 155-IleValGluArgAlaGlnSerLysValValGly-165
 167-PheXxxMetAspArgGlyValAla-174
 176-LeuGluProGluAspLysArgLeuAsnGln-185
 189-LeuGluProAspGlyValAlaArgPheLysProGluSerGlyGln-203
 210-GluValTyrProGluGlnAsnArgProAlaVal-220
 227-LeuGlyAspTyrAlaAspSerGlyMetGluIle-237
 239-IleAlaValArgLysHisHisLeu-246
 253-AlaCysAlaLysAlaAlaLysLysIleProAspHisValArgLysSerAspLeuLysGlyArgValAspLeuArgAsp-278
 283-ThrIleAspGlyGluThrAlaArgAspPheAspAsp-294
 299-GluLysIleGlyArgAsnTyrArg-306
 316-HisTyrValArgProAspAspAlaIleAspThrAspAlaGlnGluArgSerThrSerVal-335
 337-PheProArgArgVal-341
 345-LeuProGluAsnLeuSerAsnGly-352
 374-AlaGlyAsnIleLysGluTyrArgPhe-382
 402-LeuSerGlyGlyIleGluHisProPheLysThrGlnIle-414
 424-LeuGlnLysLysArgPheGluArgGlyAlaValGluPheAspSerIleGlu-440
 443-MetLeuPheAspAspAsnGlyLysIleGluLys-453
 458-ValArgAsnAspAlaHisLysLeuIleGlu-467
 482-LeuLysAsnLysHisThrAla-488
 493-HisLeuGlyProThrProGluLysLeuAlaLeuArgGluGlnLeu-508
 516-GlyGlyGlyAspAsnProSerProLysAspTyrAla-527
 532-GlnPheLysGlyArgProAspAlaGluLeu-541
 556-GluProHisCysAspGlyHis-562
 575-SerProIleArgArgTyrProAspLeuThrVal-585

597-ThrTyrThrProLysLysSerTrp-604
 613-PheCysGluArgArgAlaAspAspAlaSerArgAspValGluAsn-627
 633-TyrMetArgAspLysValGlyGluValPheGluGlyLysIleSerGly-648
 670-SerAspLeuGlyGluAspTyrPheAsnPheArgPro-681
 683-IleMetAlaIleGluGlyGluArgSerGlyIleArgPheAsnMetGlyAspArgValAlaValArgValAlaArgAlaAspLeuAspAspGlyLysIle-715
 722-GlyGlySerGlyArgGlyArgLysValLysSerSerAlaSerAlaLysProAlaGlyThrAlaGlyLysGlyLysProLysThrAlaAlaGluLysLysThrAlaArgGlyGlyLysValArgGlyArgGlyAlaSerAlaAlaAlaGluSerArgLysLysAlaLysLysProValProIleLysValLysLysArgLysGlyLysSer-791

Hydrophilic Regions - Hopp-Woods

1-MetAsnLysAsnIleLys-6
 8-LeuAsnLeuArgGluLysAspProPheLeuSerArgGluLysGlnArgTyrGluHis-76
 37-LeuLeuGluArgLysGlyValProSerLysIleGluAlaLeuValArg-52

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54-LeuSerIleLysGluGluGluTyrGluPhePheGluArgArgLeuLysAlaMetAlaArgAspGlyGln-76
 79-IleAsnArgArgGlyAla-84
 87-AlaAlaAspLysLeuAspLeuValLysCysArgValLysAlaHisLysAspArgPhe-105
 113-ProAlaLysAspGlyAsp-118
 140-AlaGlyMetAspGlyArgGlyArgGluGlyThrVal-152
 155-IleValGluArgAlaGlnSerLysValValGly-165
 167-PheXxxMetAspArgGlyValAla-174
 176-LeuGluProGluAspLysArgLeuAsn-184
 189-LeuGluProAspGlyValAlaArgPheLysProGluSerGly-202
 210-GluValTyrProGluGlnAsnArgProAlaVal-220
 230-TyrAlaAspSerGlyMetGluIle-237
 239-IleAlaValArgLysHisHis-245
 253-AlaCysAlaLysAlaAlaLysLysIleProAspHisValArgLysSerAspLeuLysGlyArgValAspLeu
 ArgAsp-278
 284-IleAspGlyGluThrAlaArgAspPheAspAsp-294
 300-LysIleGlyArgAsnTyr-305
 318-ValArgProAspAspAlaIleAspThrAspAlaGlnGluArgSerThr-333
 376-AsnIleLysGluTyrArg-381
 424-LeuGlnLysLysArgPheGluArgGlyAlaValGluPheAspSerIleGlu-440
 443-MetLeuPheAspAspAsnGlyLysIleGluLys-453
 458-ValArgAsnAspAlaHisLysLeuIleGlu-467
 496-ProThrProGluLysLeuAlaAlaLeuArgGluGlnLeu-508
 517-GlyGlyAspAsnProSerProLysAspTyrAla-527
 533-PheLysGlyArgProAspAlaGluLeu-541
 576-ProIleArgArgTyrProAsp-582
 598-TyrThrProLysLysSerTrp-604
 613-PheCysGluArgArgAlaAspAspAlaSerArgAspValGluAsn-627
 633-TyrMetArgAspLysValGlyGluValPheGluGlyLysIle-646
 683-IleMetAlaIleGluGlyGluArgSerGlyIle-693
 696-AsnMetGlyAspArgValAlaValArgValAlaArgAlaAspLeuAspAspGlyLysIle-715
 723-GlySerGlyArgGlyArgLysValLysSerSerAlaSerAlaLysProAlaGlyThrAlaGlyLysGlyLys
 ProLysThrAlaAlaGluLysLysThrAlaArgGlyGlyLysValArgGlyArgGlyAlaSerAlaAlaGluS
 erArgLysLysAlaLysLysProValProIleLysValLysLysArgLysGlyLysSer-791
a989
AMPHI Regions - AMPHI
 58-AlaGlyLeuThrLysLeu-63
 85-SerAlaThrAspPhe-89
 98-LysSerGlyLysIleThr-103
 109-ProHisIleTyrGlyAla-114
 183-GluLeuArgLysTyrAlaAspTrpGlyIleMetGluLysAlaLysAlaLeu-199

201-GluThrProProAsnProThrLysAla-209
 299-SerValHisGlyMetTyrLysValSer-307
 318-TrpThrArgHisSerArg-323
 362-SerTyrGlnIleSerGluProLeu-369
 448-PheLysAsnHisAlaAsp-453

Antigenic Index - Jameson-Wolf

43-AlaAlaAlaGluAlaAlaAspAlaSer-51
 57-ProAlaGlyLeuThrLysLeuAspSerSerGlnIleSer-69
 81-TyrGluAlaAspSerAlaThrAspPheThr-90
 94-ValGlnGlySerLysSerGlyLysIleThrLysThrThr-106
 116-LysValAsnAspAsnLeuThr-122
 132-GlySerAlaThrGluTyrGluLysAspSerValLeu-143

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146-AsnIleAsnLysLeuGly-151
164-LysLeuAsnGluArgHisSerPheGly-172
180-ThrSerAlaGluLeuArgLysTyrAla-188
194-GluLysAlaLysAlaLeuLysGluThrProProAsnProThrLysAlaAlaGlnIleLysAlaAspGlyHis
AlaAspValLysGlySerAspTrpGly-226
236-AspIleAsnAspArgAlaArgValGlyValAsnTyrArgSerLysValSerHisThrLeuLysGlyAspAla
GluTrpAlaAla-263
272-TrpAspAlaAsnLys-276
283-ThrProSerGluLysAlaArgValLysIleValThrProGluSer-297
304-TyrLysValSerAspLysAlaAspLeu-312
317-ThrTrpThrArgHisSerArgPheAspLysAlaGluLeuValPheGluLysGluLysThrIleValAsnGly
LysSerAspArgThrThrIle-347

349-ProAsnTrpArgAsnThrTyrLysValGlyPhe-359

361-GlySerTyrGlnIleSerGluLeuGln-370
375-IleAlaPheAspLysSerProValArgAsnAlaAspTyrArgMetAsnSerLeuProAspGlyAsn-396
407-HisIleGlyLysAsnHisVal-413
424-AsnAspThrSerTyrArgThrAlaLysAlaSerGlyAsnAspValAspSerLysGlyAlaSerSerAlaArg
PheLysAsnHisAla-452

Hydrophilic Regions - Hopp-Woods

43-AlaAlaAlaGluAlaAlaAsp-49
51-ThrLysLeuAspSerSerGln-67
81-TyrGluAlaAspSerAlaThr-87
95-GlnGlySerLysSerGlyLysIleThrLys-104
135-ThrGluTyrGluLysAspSerValLeu-143
164-LysLeuAsnGluArgHisSer-170
180-ThrSerAlaGluLeuArgLysTyrAla-188
194-GluLysAlaLysAlaLeuLysGluThrProProAsnProThrLysAlaAlaGlnIleLysAlaAspGlyHis
AlaAspValLysGlySerAsp-224
237-IleAsnAspArgAlaArgVal-243

247-TyrArgSerLysVal-251

255-LeuLysGlyAspAlaGluTrpAlaAla-263

284-ProSerGluLysAlaArgValLysIleValThr-294
305-LysValSerAspLysAlaAspLeu-312
322-SerArgPheAspLysAlaGluLeuValPheGluLysGluLysThrIleVal-338
340-GlyLysSerAspArgThrThrIle-347
375-IleAlaPheAspLysSerProValArgAsnAlaAspTyrArgMet-389

391-SerLeuProAspGlyAsn-396
426-ThrSerTyrArgThrAlaLysAlaSerGlyAsnAspValAspSerLysGlyAlaSerSerAlaArgPheLys
AsnHisAla-452

a990**AMPHI Regions - AMPHI**

76-IleThrAspThrTyrGlyAspAsnLeuLysAspAlaValLysLysGlnLeuGlnAspLeuTyrLys-97
131-AspLeuIleAsnLysLeuVal-137
151-ThrSerLeuAsnAsnIlePhe-157
195-AspIleHisMetLeu-199
260-ProGluAsnLeuLysThrLeuAspGly-268
293-TyrGluLeuLeuLysGlnCys-300
419-SerTyrLeuHisGlyTyrGlyGlyGlyValTyrAlaAlaTrp-432

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442-AlaTyrLeuAspGlyTrpLeuGlnTyr-450
 472-ThrAlaSerValGluGlyGlyTyrAsnAlaLeu-482
 550-GlnProPheAlaAlaPheAsnValLeuHisArg-560

Antigenic Index - Jameson-Wolf

6-LeuGlySerAsnThrArgSerThrLysIleGlyAspAspAlaAspPheSerPheSerAspLysProLysProGlyTyr-31
 35-PheSerSerGlyLysThrAspGlnAsnSerSerGluTyrGlyTyrAspGluIleAsnIleGlnGlyLysAsnTyrAsnSerGlyIle-63
 75-TyrIleThrAspThrTyrGlyAspAsnLeuLysAspAlaValLysLysGlnLeuGlnAspLeuTyrLysThrArgProGluAlaTrpGluGluAsnLysLysArgThrGluGluAlaTyr-114
 123-SerIleLeuLysGlnLysAsnProAspLeuIle-133
 145-HisSerAsnThrSerGlnThrSer-152
 157-PheAsnLysLysLeuHisValLysIleGluAsnLysSerHisVal-171
 179-ThrLysMetThrLeuLysAspSerLeuTrpGluProArgArgHisSerAspIleHisMet-198
 200-GluThrSerAspAsnAlaArgIleArgLeuAsnThrLysAspGluLysLeuThrVal-218
 222-TyrGlnGlyGlyAla-226
 233-AspValArgGluSerAspLysProAlaLeuThrPheGluGluLysValSerGlyGlnSerGlyValValLeuGluArgArgProGluAsnLeuLysThrLeuAspGlyArgLysLeuIleAlaAlaGluLysAlaAspSerAsnSerPheAlaPheLysGlnAsnTyrArgGlnGlyLeu-292
 298-LysGlnCysGluGlyGlyPhe-304
 312-AlaIleProGluAlaGlu-317
 335-ArgAlaAlaAspArgGlyAspAspValTyrAlaAlaAspProSerArgGlnLysLeu-353
 358-IleGlyGlyArgSerHisGlnAsnIleArgGlyGlyAlaAlaAlaAspGlyArgArgLysGlyVal-379
 385-ValPheValArgGlnAsnGluGlySerArgLeuAla-396
 400-MetGlyGlyArgAlaGlyGln-406
 408-AlaSerValAsnGlyLysGlyGlyAla-416
 435-LeuArgAspLysGlnThrGlyAlaTyr-443
 452-ArgPheLysHisArgIleAsnAspGluAsnArgAlaGluArgTyrLysThrLysGlyTrpThr-472
 475-ValGluGlyGlyTyr-479
 487-ValValGlyLysGlyAsnAsnValArg-495
 510-AsnGlyGlyPheThrAspSerGluGlyThrAla-520
 525-GlySerGlyGlnTrpGlnSerArgAlaGlyIleArgAlaLysThrArgPheAlaLeuArgAsnGlyValAsn-548
 559-HisArgSerLysSerPheGlyValGluMetAspGlyGluLysGlnThrLeuAla-576
 579-ThrAlaLeuGluGlyArgPheGlyIle-587
 589-AlaGlyTrpLysGlyHisMet-595
 600-GlyTyrGlyLysArgThrAspGlyAspLysGluAlaAlaLeu-613

Hydrophilic Regions - Hopp-Woods

8-SerAsnThrArgSerThrLysIleGlyAspAspAlaAspPheSerPheSerAspLysProLysProGlyThr-31
 38-GlyLysThrAspGlnAsnSerSer-45
 79-ThrTyrGlyAspAsnLeuLysAspAlaValLysLysGlnLeuGlnAsp-94
 96-TyrLysThrArgProGluAlaTrpGluGluAsnLysLysArgThrGluGluAlaTyr-114
 123-SerIleLeuLysGlnLysAsnProAspLeuIle-133
 161-LeuHisValLysIleGluAsnLysSerHisVal-171
 179-ThrLysMetThrLeuLys-184
 186-SerLeuTrpGluProArgArgHisSerAsp-195
 200-GluThrSerAspAsnAlaArgIleArgLeuAsnThrLysAspGluLysLeuThrVal-218
 233-AspValArgGluSerAspLysProAlaLeuThrPheGluGluLysValSerGly-250
 255-ValLeuGluArgArgProGluAsnLeuLysThrLeuAspGlyArgLysLeuIleAlaAlaGluLysAlaAspSerAsn-280
 312-AlaIleProGluAlaGlu-317
 335-ArgAlaAlaAspArgGlyAspAspValTyrAla-345

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347-AspProSerArgGln-351
 361-ArgSerHisGlnAsnIleArgGly-368
 370-AlaAlaAlaAspGlyArgArgLysGlyVal-379
 385-ValPheValArgGlnAsnGluGlySerArg-394
 410-ValAsnGlyLysGlyGlyAla-416
 435-LeuArgAspLysGlnThr-440
 452-ArgPheLysHisArgIleAsnAspGluAsnArgAlaGluArgTyrLysThr-468
 487-ValValGlyLysGlyAsnAsn-493
 513-PheThrAspSerGluGlyThr-519
 533-AlaGlyIleArgAlaLysThrArgPheAlaLeu-543
 559-HisArgSerLysSerPheGlyValGluMetAspGlyGluLysGlnThrLeuAla-576
 579-ThrAlaLeuGluGly-583
 600-GlyTyrGlyLysArgThrAspGlyAspLysGluAlaAlaLeu-613

a990**AMPHI Regions - AMPHI**

76-IleThrAspThrTyrGlyAspAsnLeuLysAspAlaValLysLysGlnLeuGlnAspLeuTyrLys-97
 131-AspLeuIleAsnLysLeuVal-137
 151-ThrSerLeuAsnAsnIlePhe-157
 195-AspIleHisMetLeu-199
 260-ProGluAsnLeuLysThrLeuAspGly-268
 293-TyrGluLeuLeuLeuLysGlnCys-300
 419-SerTyrLeuHisGlyTyrGlyGlyValTyrAlaAlaTrp-432
 442-AlaTyrLeuAspGlyTrpLeuGlnTyr-450
 472-ThrAlaSerValGluGlyGlyTyrAsnAlaLeu-482
 550-GlnProPheAlaAlaPheAsnValLeuHisArg-560

Antigenic Index - Jameson-Wolf

6-LeuGlySerAsnThrArgSerThrLysIleGlyAspAspAlaAspPheSerPheSerAspLysProLysProGlyThr-31
 35-PheSerSerGlyLysThrAspGlnAsnSerSerGluTyrGlyTyrAspGluIleAsnIleGlnGlyLysAsnTyrAsnSerGlyIle-63
 75-TyrIleThrAspThrTyrGlyAspAsnLeuLysAspAlaValLysLysGlnLeuGlnAspLeuTyrLysThrArgProGluAlaTrpGluGluAsnLysLysArgThrGluGluAlaTyr-114
 123-SerIleLeuLysGlnLysAsnProAspLeuIle-133
 145-HisSerAsnThrSerGlnThrSer-152
 157-PheAsnLysLysLeuHisValLysIleGluAsnLysSerHisVal-171
 179-ThrLysMetThrLeuLysAspSerLeuTrpGluProArgArgHisSerAspIleHisMet-198
 200-GluThrSerAspAsnAlaArgIleArgLeuAsnThrLysAspGluLysLeuThrVal-218
 222-TyrGlnGlyGlyAla-226
 233-AspValArgGluSerAspLysProAlaLeuThrPheGluGluLysValSerGlyGlnSerGlyValValLeuGluArgArgProGluAsnLeuLysThrLeuAspGlyArgLysLeuIleAlaAlaGluLysAlaAspSerAsnSerPheAlaPheLysGlnAsnTyrArgGlnGlyLeu-292
 298-LysGlnCysGluGlyPhe-304
 312-AlaIleProGluAlaGlu-317
 335-ArgAlaAlaAspArgGlyAspAspValTyrAlaAlaAspProSerArgGlnLysLeu-353
 358-IleGlyGlyArgSerHisGlnAsnIleArgGlyArgAlaAlaAlaAspGlyArgArgLysGlyVal-379
 385-ValPheValArgGlnAsnGluGlySerArgLeuAla-396
 400-MetGlyGlyArgAlaGlyGln-406
 408-AlaSerValAsnGlyLysGlyGlyAla-416
 435-LeuArgAspLysGlnThrGlyAlaTyr-443
 452-ArgPheLysHisArgIleAsnAspGluAsnArgAlaGluArgTyrLysThrLysGlyTrpThr-472
 475-ValGluGlyGlyTyr-479
 487-ValValGlyLysGlyAsnAsnValArg-495
 510-AsnGlyGlyPheThrAspSerGluGlyThrAla-520

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525-GlySerGlyGlnTrpGlnSerArgAlaGlyIleArgAlaLysThrArgPheAlaLeuArgAsnGlyValAsn-
 -548
 559-HisArgSerLysSerPheGlyValGluMetAspGlyGluLysGlnThrLeuAla-576
 579-ThrAlaLeuGluGlyArgPheGlyIle-587
 589-AlaGlyTrpLysGlyHisMet-595
 600-GlyTyrGlyLysArgThrAspGlyAspLysGluAlaAlaLeu-613

Hydrophilic Regions - Hopp-Woods

8-SerAsnThrArgSerThrLysIleGlyAspAlaAspPheSerPheSerAspLysProLysProGlyThr-3
 1
 38-GlyLysThrAspGlnAsnSerSer-45
 79-ThrTyrGlyAspAsnLeuLysAspAlaValLysLysGlnLeuGlnAsp-94
 96-TyrLysThrArgProGluAlaTrpGluGluAsnLysLysArgThrGluGluAlaTyr-114
 123-SerIleLeuLysGlnLysAsnProAspLeuIle-133
 161-LeuHisValLysIleGluAsnLysSerHisVal-171
 179-ThrLysMetThrLeuLys-184
 186-SerLeuTrpGluProArgArgHisSerAsp-195
 200-GluThrSerAspAsnAlaArgIleArgLeuAsnThrLysAspGluLysLeuThrVal-218
 233-AspValArgGluSerAspLysProAlaLeuThrPheGluGluLysValSerGly-250
 255-ValLeuGluArgArgProGluAsnLeuLysThrLeuAspGlyArgLysLeuIleAlaAlaGluLysAlaAsp
 SerAsn-280
 312-AlaIleProGluAlaGlu-317
 335-ArgAlaAlaAspArgGlyAspAspValTyrAla-345
 347-AspProSerArgGln-351
 361-ArgSerHisGlnAsnIleArgGly-368
 370-AlaAlaAlaAspGlyArgArgLysGlyVal-379
 385-ValPheValArgGlnAsnGluGlySerArg-394
 410-ValAsnGlyLysGlyGlyAla-416
 435-LeuArgAspLysGlnThr-440
 452-ArgPheLysHisArgIleAsnAspGluAsnArgAlaGluArgTyrLysThr-468
 487-ValValGlyLysGlyAsnAsn-493
 513-PheThrAspSerGluGlyThr-519
 533-AlaGlyIleArgAlaLysThrArgPheAlaLeu-543
 559-HisArgSerLysSerPheGlyValGluMetAspGlyGluLysGlnThrLeuAla-576
 579-ThrAlaLeuGluGly-583
 600-GlyTyrGlyLysArgThrAspGlyAspLysGluAlaAlaLeu-613

a992**AMPHI Regions - AMPHI**

6-ArgHisLeuLysAsnMetGlnIleLysLysIleMetLysTrp-19
 24-LeuSerLeuLeuGlyAlaLeuGlyTyr-32
 45-AlaValLeuAspValLeuGlyAlaAla-53
 72-HisArgTyrThrGlyThrValSerLysValTyr-82
 158-GlnValGlnAspGly-162
 179-AspPheAlaAspTyr-183

Antigenic Index - Jameson-Wolf

1-MetPheArgArgHisArgHisLeuLys-9
 34-GlyTyrGlySerGluAlaValArg-41
 52-AlaAlaGlyAspAlaGlySerAspAlaProAlaArgArgAlaSerAlaLysSerGlyHisArgTyrThr-
 75
 79-SerLysValTyrAspGlyAspThr-86
 90-IleAspGlyAspGlyAlaLysHisLysIle-99
 105-AspAlaProGluMetLysGlnAlaTyrGlyThrArgSerArgAspAsnLeuArgAlaAlaAlaGluGlyArg
 LysValSer-131
 134-ValPheAspThrAspArgTyrGlnArgGluValAla-145

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148-SerValGlyLysThrAspLeuAsn-155
 168-LysSerTyrAlaLysGluGlnGlnAspLysAlaAspPhe-180
 187-GlnIleGlnAlaGluArgGluArgLysGlyLeuTrpLysAlaLysAsnProGlnAlaPro-206
 208-AlaTyrArgArgAlaGlyArgSerGlyGlyGlyAsnLysAspTrpMetAsp-224

Hydrophilic Regions - Hopp-Woods

1-MetPheArgArgHisArgHisLeuLys-9
 54-GlyAspAlaGlySerAspAlaProAlaArgArgAlaSerAlaLysSerGlyHisArg-73
 90-IleAspGlyAspGlyAlaLysHisLysIle-99
 105-AspAlaProGluMetLysGln-111
 113-TyrGlyThrArgSerArgAspAsnLeuArgAlaAlaAlaGluGlyArgLysValSer-131
 134-ValPheAspThrAspArgTyrGlnArgGluValAla-145
 148-SerValGlyLysThrAspLeu-154
 169-SerTyrAlaLysGluGlnGlnAspLysAlaAspPhe-180
 187-GlnIleGlnAlaGluArgGluArgLysGlyLeuTrpLysAlaLysAsnPro-203
 211-ArgAlaGlyArgSerGlyGlyGlyAsnLysAspTrpMet-223

a993**AMPHI Regions - AMPHI**

6-SerSerPheGlnGlyProLeuAspLeuLeuLeu-16
 35-ThrGluGlnTyrLeuHisTyrIleAlaGlnIle-45
 105-GlyLeuAspAlaLeuProArgAla-112
 136-IleThrAspLeuThrGlnAlaTrpLeuSer-145
 152-HisThrArgSerHisGluValIle-159
 169-MetThrAlaIleLeuArgArgLeuAsnLysHisGlyIleCysArgPheHisAspLeuPheAsnProGlu-191
 199-ValAsnPheIleAlaLeuLeu-205

Antigenic Index - Jameson-Wolf

7-SerPheGlnGlyProLeu-12
 20-ArgLysGlnAsnIleAsp-25
 70-LeuLeuLeuProArgThrGluThrValGluAspGluGluAlaAspProArgAlaGluLeuValArg-91
 108-AlaLeuProArgAlaGlyArgAspPhe-116
 148-SerArgAlaLysHisThrArgSerHisGluValIleLysGluThrIleSer-164
 174-ArgArgLeuAsnLysHisGlyIle-181
 188-PheAsnProGluGlnGly-193
 207-LeuAlaLysGluGlyLeu-212
 228-LeuAsnHisGluGlyAlaHisSerAspGlyIleSerGlyThrArgGlyGlyArgAspValPhe-248

Hydrophilic Regions - Hopp-Woods

20-ArgLysGlnAsnIleAsp-25
 70-LeuLeuLeuProArgThrGluThrValGluAspGluGluAlaAspProArgAlaGluLeuValArg-91
 108-AlaLeuProArgAlaGlyArg-114
 148-SerArgAlaLysHisThrArgSerHisGluValIleLysGluThrIleSer-164
 174-ArgArgLeuAsnLys-178
 207-LeuAlaLysGluGlyLeu-212
 232-GlyAlaHisSerAspGlyIleSerGlyThrArgGlyGlyArgAspValPhe-248

a996**AMPHI Regions - AMPHI**

21-LysSerAlaArgThrHisAlaLysIlePro-30
 50-ProGlyGluSerTyrProAlaGlnLeuGlnLysLeuThrGlyTrpAsn-65
 75-ThrSerAlaGlnAlaLeuSerArgLeuProAla-85
 104-LeuArgLysValProLysGlu-110
 115-AsnIleAlaLysIleIleGluThrValGlnLys-125
 140-LeuGlyAlaLeuPheGlyHisLeuSerAsp-149
 167-GlyAlaTrpAlaGlu-171

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185-AsnGlyLysGlyTyrArgLysPheAlaGluAspLeuAsnGlnPheLeuArgLysGlnGlyPhe-206

Antigenic Index - Jameson-Wolf

1-MetAsnArgArgThrPhe-6
 18-CysGlyArgLysSerAlaArgThrHisAlaLysIleProGluGlySerThr-34
 46-TyrGlyAlaAsnProGlyGluSerTyrPro-55
 69-GlyGlyValSerGlyAspThrSerAla-77
 87-LeuAlaArgLysProLys-92
 99-GlyGlyAsnAspPheLeuArgLysValProLysGluGlnThrArgAlaAsnIle-116
 121-GluThrValGlnLysGluAsnIlePro-129
 148-SerAspHisProLeuTyrGluAspLeuSerGluGluTyrGly-161
 173-LeuGlyAspAsnAsnLeuLysSerAspGlnIleHisAlaAsnGlyLysGlyTyrArgLysPheAlaGluAsp
 LeuAsnGlnPheLeuArgLysGlnGlyPheArg-207

Hydrophilic Regions - Hopp-Woods

18-CysGlyArgLysSerAlaArgThrHisAlaLysIleProGlu-31
 49-AsnProGlyGluSerTyr-54
 71-ValSerGlyAspThrSerAla-77
 87-LeuAlaArgLysProLys-92
 102-AspPheLeuArgLysValProLysGluGlnThrArgAlaAsnIle-116
 121-GluThrValGlnLysGluAsnIle-128
 154-GluAspLeuSerGluGluTyrGly-161
 176-AsnAsnLeuLysSerAspGlnIleHisAlaAsn-186
 188-LysGlyTyrArgLysPheAlaGluAspLeuAsnGlnPheLeuArg-202

a997**AMPHI Regions** - AMPHI

18-TrpAlaGlyLeuSerAlaAlaVal-25
 70-TyrArgGlyValLeuArgLeuMetLysThrIleGlySerAsp-83
 107-ProLeuProAlaProLeuHisIle-114
 123-ArgValProSerAlaPheLysAlaLysLeuLeuAlaAspMetSerAspLeuGlnLysSerAlaArgLeuGly
 -146
 164-AlaAlaValMetGlnPheTrpGlnProLeuValTrpGly-176
 189-ValLeuCysAsnValLeuSerAsp-196
 222-AlaLeuAlaGluLeuGlnArg-228
 241-ArgLeuAsnThrLeuPro-246
 275-GluGlyThrProGluHisValGlnThrAla-284
 300-TyrAlaGluProValArgLeuProAlaProLeuThrGlyLeuAlaAspGly-316
 354-AspLysValHisAlaAspLeuLysArgIleLeuProHisLeu-367
 369-GluProGluAlaVal-373

Antigenic Index - Jameson-Wolf

3-AsnThrProHisProArgProLysIle-11
 37-GluAlaGlyArgGlnAlaGlyGlyArgAlaArgAla-48
 50-AlaGlyAsnThrAspGlyPheGly-57
 78-LysThrIleGlySerAspProHisAla-86
 122-ArgArgValProSerAlaPheLys-129
 132-LeuLeuAlaAspMetSerAspLeuGlnLysSerAlaArgLeuGlyGlnProAspThrThr-151
 156-LeuLysGlnArgAsnValProArg-163
 180-ThrProLeuGluThrAlaSer-186
 197-GlyValLeuThrLysLysSerGlySerAspTyrLeuLeuProLysGlnAspLeu-214
 225-GluLeuGlnArgLeuGlyAlaAspIleArgLeuGluThrArgIleCysArg-241
 243-AsnThrLeuProAspGlyLysVal-250
 273-LeuProGluGlyThrProGluHisVal-281
 312-GlyLeuAlaAspGlyThr-317
 323-CysArgGlyArgLeuGlyLeuProGluAsnGluVal-334

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340-ValSerAspArgValGlyAla-346
 356-ValHisAlaAspLeuLysArgIleLeu-364
 367-LeuGlyGluProGluAlaValArgValIleThrGluLysArgAlaThrThrAlaAlaAspAlaProProPro
 AspLeu-392
 402-ProAlaGlyAspTyrLeuHisProAspTyrProAla-413

Hydrophilic Regions - Hopp-Woods

5-ProHisProArgProLysIle-11
 37-GluAlaGlyArgGlnAlaGlyGlyArgAlaArgAla-48
 80-IleGlySerAspPro-84
 122-ArgArgValProSer-126
 132-LeuLeuAlaAspMetSerAspLeuGlnLysSerAlaArgLeuGlyGlnProAspThrThr-151
 198-ValLeuThrLysLysSerGlySer-205
 208-LeuLeuProLysGlnAspLeu-214
 225-GluLeuGlnArgLeuGlyAlaAspIleArgLeuGluThrArgIleCysArg-241
 246-ProAspGlyLysVal-250
 276-GlyThrProGluHisVal-281
 325-GlyArgLeuGlyLeuProGluAsnGluVal-334
 340-ValSerAspArgValGly-345
 356-ValHisAlaAspLeuLysArgIleLeu-364
 368-GlyGluProGluAlaValArgValIleThrGluLysArgAlaThrThrAlaAlaAspAlaProProPro-39
 0

g001**AMPHI Regions - AMPHI**

7-AlaAlaArgArgValSer-12
 17-SerGlyArgAlaCys-21
 67-AlaArgPhePheGlySerValCysAsnSerAla-77

Antigenic Index - Jameson-Wolf

3-ProGlnGlyLysAlaAlaArgArgValSerAlaAsnGluValSerGlyArgAlaCysAla-22
 31-ThrLeuProLysArgAspThrLeuAsnGlySerGlyThr-43
 53-ProArgSerLeuArgSerLysSerThr-61
 68-ArgPhePheGlySer-72
 74-CysAsnSerAlaAlaArgArgSerSerCysProSerProLysIleGly-89
 100-ValProSerGluAlaMetLeuArgLysSerSerGlyGluLysHisSerVal-116
 119-AspCysProAlaSerSerGlyArgTrpAspAsnThrAla-131

Hydrophilic Regions - Hopp-Woods

5-GlyLysAlaAlaArgArgValSerAlaAsnGluValSerGly-18
 32-LeuProLysArgAspThrLeuAsn-39
 54-ArgSerLeuArgSerLysSer-60
 77-AlaAlaArgArgSerSerCysProSerProLys-87
 104-AlaMetLeuArgLysSerSerGlyGluLysHisSerVal-116
 125-GlyArgTrpAspAsn-129

g003**AMPHI Regions - AMPHI**

72-AsnGlnValValLeu-76
 82-ValValGluValPheGlnArg-88
 150-ValGlnAlaGluPheValGlyIleValGlyHisPheAspGlyLeuGlyMet-166
 173-HisPhePheValArgValPheArg-180

Antigenic Index - Jameson-Wolf

104-PheGluGlyGlyGlyAspAspGlyPhe-112

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137-GlyArgIleAsnAspAlaGluIleIle-145
 204-ProLysAlaAlaAlaGlyGluValAsnGly-213
 215-ArgValHisAspCys-219

Hydrophilic Regions - Hopp-Woods

106-GlyGlyGlyAspAspGlyPhe-112
 137-GlyArgIleAsnAspAlaGluIleIle-145
 205-LysAlaAlaAlaGlyGluValAsnGly-213
 215-ArgValHisAspCys-219

g005

AMPHI Regions - AMPHI

16-IleGlnSerMetTrpLysGlu-22
 32-LeuGluLeuLeuThrValPheGlyAlaIleAla-42
 62-LeuThrAspPheSerGluAsnTyr-69
 107-ArgLeuLysGluGlyGlyGluLysSerAlaGlu-117
 177-GlnLeuArgArgLeuArg-182
 213-AlaProPheAlaValIleGlySerValGlyValValAlaGluValProAsnIleHisArgLeuLeuLysLys-236
 249-PheLysArgThrVal-253
 274-ThrHisGlnLeuPheLysGln-280
 308-LeuAsnLeuIleAspGluIleSerThr-316
 320-LeuLeuLeuLysAlaPhe-325

Antigenic Index - Jameson-Wolf

1-MetGlyMetAspAsn-5
 10-MetProGluGlnGluGluIleGlnSerMetTrp-20
 50-GlnSerLysLysGlnSerGluSerGlySer-59
 64-AspPheSerGluAsnTyrLysLysGlnArgGlnSerPhe-76
 82-SerGluGluGluThrLysHisGlnGluLysLysGluLysLysLysGluLysAlaGluAlaLysAlaGluLysLysArgLeuLysGluGlyGlyGluLysSerAlaGluThrGlnLysSerArg-122
 138-GluSerLeuArgHisGluIle-144
 151-AlaLysProGluAspGluValLeuLeu-159
 161-LeuGluSerProGlyGlyVal-167
 177-GlnLeuArgArgLeuArgGluArgAsnIle-186
 191-AlaValAspLysValAlaAla-197
 232-ArgLeuLeuLysLysHisAspIleAspVal-241

247-GlyGluPheLysArgThr-252
 258-GluAsnThrGluLysGlyLysGlnLysPheArgGlnGluLeuGluGluThrHisGln-276
 281-PheValSerGluAsnArgProGlyLeuAspIleGluLysIleAlaThr-296
 312-AspGluIleSerThrSerAspAspLeuLeu-321
 325-PheGluAsnLysGlnValIle-331
 334-LysTyrGlnGluLysArgSerLeuIle-342
 351-AlaSerValGluLysLeuPhe-357
 361-ValAsnArgArgAlaAspVal-367

Hydrophilic Regions - Hopp-Woods

10-MetProGluGlnGluGluIleGlnSerMetTrp-20
 50-GlnSerLysLysGlnSerGluSerGly-58
 64-AspPheSerGluAsnTyrLysLysGlnArgGlnSerPhe-76
 82-SerGluGluGluThrLysHisGlnGluLysLysGluLysLysLysGluLysAlaGluAlaLysAlaGluLysLysArgLeuLysGluGlyGlyGluLysSerAlaGluThrGlnLysSerArg-122
 138-GluSerLeuArgHisGluIle-144

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151-AlaLysProGluAspGluValLeuLeu-159

161-LeuGluSerProGly-165

177-GlnLeuArgArgLeuArgGluArgAsnIle-186

191-AlaValAspLysValAlaAla-197

232-ArgLeuLeuLysLysHisAspIleAspVal-241

247-GlyGluPheLysArg-251

258-GluAsnThrGluLysGlyLysGlnLysPheArgGlnGluLeuGluThrHisGln-276

281-PheValSerGluAsnArgProGlyLeuAspIleGluLysIleAlaThr-296

312-AspGluIleSerThrSerAspAspLeuLeu-321

325-PheGluAsnLysGlnValIle-331

334-LysTyrGlnGluLysArgSerLeuIle-342

351-AlaSerValGluLysLeuPhe-357

361-ValAsnArgArgAlaAspVal-367

g006-1

AMPHI Regions - AMPHI

6-LysHisIleAlaLysThrHisArgLysArg-15

19-ThrPheSerProValGlyLeuGluAsnLeuLeu-29

48-ArgValTrpGlnAlaLeuLeuTyrAlaLeuValValPhe-60

69-ArgArgIleAlaAspThrArgThrPheThrArgIleTyrThrGlu-83

111-GluPheValSerPhePheGlu-117

125-ThrSerValValSerIlePheGlyAlaCysIleMetLeuLeu-138

195-HisTyrGlyLeuValSerArgLeu-202

236-GlyTyrGlySerAlaGlyHisIleTyrSer-245

257-LeuAspAspValProArgLeuValGluGlnTyrSerAsnLeuLysAspIle-273

Antigenic Index - Jameson-Wolf

6-LysHisIleAlaLysThrHisArgLysArgLeu-16

67-AlaAlaArgArgIleAlaAspThrArgThrPheThr-78

90-LeuGluGlnArgGlnArgGlnValProHisSer-100

173-LeuAsnAsnSerLeuGluArgAspAsnHisPheIleArgLysGlyAspGluArgGlnLeuTyr-193

206-IleSerAsnArgGluAlaPhe-212

256-SerLeuAspAspValProArgLeuValGluGlnTyrSerAsnLeuLysAspIleGlyGlnArgIleGluTrp
SerGluArgAsnIleLysAlaGlyThr-288**Hydrophilic Regions - Hopp-Woods**

6-LysHisIleAlaLysThrHisArgLysArgLeu-16

67-AlaAlaArgArgIleAlaAspThrArgThrPhe-77

90-LeuGluGlnArgGlnArgGlnValPro-98

175-AsnSerLeuGluArgAspAsnHisPheIleArgLysGlyAspGluArgGlnLeu-192

206-IleSerAsnArgGluAla-211

256-SerLeuAspAspValProArgLeuValGlu-265

268-SerAsnLeuLysAspIleGlyGln-275

277-IleGluTrpSerGluArgAsnIleLysAlaGlyThr-288

g007-1

AMPHI Regions - AMPHI

71-HisSerMetValLysGlyIleAsn-78

105-ValAlaThrTyrIleMetAsnAlaPheAspAsnGlyGlyGly-118

Antigenic Index - Jameson-Wolf

1-MetAsnThrThrArgLeuProThr-8

20-SerAlaAlaAspAsnSerIleMetThrLysGlyGlnLysValTyrGluSerAsnCys-38

41-CysHisGlyLysLysGlyGluGlyArgGlyThrAlaPhePro-54

56-LeuPheArgSerAspTyrIleMetAsnLysPro-66

81-IleLysValAsnGlyLysThrTyrAsnGly-90

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98-SerAspAlaAspIle-102
 112-AlaPheAspAsnGlyGlyGlySerValThrGluLysAspValLysGlnAlaLysGlyLysLysAsn-133

Hydrophilic Regions - Hopp-Woods

26-IleMetThrLysGlyGlnLysValTyrGlu-35
 42-HisGlyLysLysGlyGluGlyArgGly-50
 98-SerAspAlaAspIle-102
 119-SerValThrGluLysAspValLysGlnAlaLysGlyLysLyAsn-133
g008

AMPHI Regions - AMPHI

15-LeuAspAsnProAlaGlnGlnIleArgGlyAlaLeuAspAlaLeuSer-30
 54-GlnProAspPheIleAsnAlaVal-61
 63-ThrValSerThrThr-67
 69-AspGlyIleAlaLeuLeuAlaGluLeuAsnArg-79
 90-PheArgAsnAlaPro-94
 129-ArgProLeuAlaGluIleLeuProAsp-137
 140-LeuGlyLysTyrGlyLysValValGluLeuSerLysArgLeuGly-154

Antigenic Index - Jameson-Wolf

1-MetAsnAsnArgHis-5
 12-GlySerAsnLeuAspAsnProAlaGlnGlnIleArgGlyAlaLeu-26
 29-LeuSerSerHisProAspIleArgLeuGluGln-39
 49-ValGlyTyrAspAsnGlnFrAspPhe-57
 76-GluLeuAsnArgIleGluAlaAspPheGlyArgGluArgSerPheArgAsnAlaProArgThrLeuAspLeuAspIleIleAspPheAspGlyIleSerSerAspAspProArgLeuThrLeuProHisProArgAlaHisGluArgSerPheVal-127
 139-IleLeuGlyLysTyrGlyLysValValGluLeuSerLysArgLeuGlyAsnGlnGlyIle-158
 160-LeuLeuProAspArg-164

Hydrophilic Regions - Hopp-Woods

14-AsnLeuAspAsnProAlaGlnGlnIle-22
 33-ProAspIleArgLeuGluGln-39
 76-GluLeuAsnArgIleGluAlaAspPheGlyArgGluArgSerPheArgAsnAlaProArgThrLeuAsp-98
 105-AspGlyIleSerSerAspAspProArgLeu-114
 120-ArgAlaHisGluArgSerPheVal-127
 147-ValGluLeuSerLysArgLeuGly-154
 160-LeuLeuProAspArg-164

g009**Antigenic Index - Jameson-Wolf**

6-ValAlaPheGluArgHisHisHisLysSerLysAlaGluGlnAsnThrHisArgArgAlaAspAlaGluIleAlaGlu-31
 37-AsnGlnHisThrGlnAlaArgAsnGlnSerVal-47
 57-PheSerAspLysVal-61
 77-AlaAspGlyGlyLysThrTrpGlnLysPro-86

Hydrophilic Regions - Hopp-Woods

6-ValAlaPheGluArgHisHisHisLysSerLysAlaGluGlnAsnThrHisArgArgAlaAspAlaGluIleAlaGlu-31
 40-ThrGlnAlaArgAsnGlnSer-46
 78-AspGlyGlyLysThrTrpGln-84
g010-1

AMPHI Regions - AMPHI

54-SerAlaSerLeuGly-58
 70-TyrAspThrValLysGly-75
 115-TyrGlnArgProPheGlyGlyHis-122

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125-GluHisGlyLysArgAlaVal-131
 146-LeuHisThrLeuTyrGln-151
 210-AlaSerSerThrAsn-214
 216-TyrMetAsnThrGlyAspGly-222
 275-ArgTyrAlaProThrValLys-281
 322-IleMetGluLysLeuProGlyIleArg-330
 338-GlyIleAspProIleLysAspProIlePro-347
 357-GlyGlyIleProThrAsnTyrHis-364

Antigenic Index - Jameson-Wolf

15-GlyGlyGlyAlaGly-19
 26-LeuSerLysSerGlyLeu-31
 40-PheProThrArgSerHis-45
 59-AsnValGlnGluAspArgTrpAsp-66
 71-AspThrValLysGlySerAspTrpLeuGlyAspGlnAspAlaIle-85
 104-MetProPheAspArgValGluSerGlyLysIleTyrGlnArgProPheGly-120
 123-ThrAlaGluHisGlyLysArgAlaValGluArgAlaCysAlaValAlaAspArgThrGly-142
 152-GlnAsnValArgAlaAsnThr-158
 168-AspLeuIleArgAspGluAsnGlyAspVal-177
 183-MetGluMetGluThrGlyGlu-189
 202-ThrGlyGlyGlyGlyArgIle-208
 218-AsnThrGlyAspGly-222
 231-IleProLeuGluAspMetGlu-237
 255-GluGlyValArgGlyGluGlyGlyIle-263
 266-AsnAlaAspGlyGluArgPheMetGlu-274
 276-TyrAlaProThrValLysAspLeuAlaSerArgAspValValSer-290
 297-IleTyrGluGlyArgGlyCysGlyLysAsnLysAspHisVal-310
 315-AspHisIleGlyAlaGluLysIleMetGluLysLeuProGlyIleArgGluIleSer-333
 338-GlyIleAspProIleLysAspProIle-346
 368-ValValProGlnGlyAspGluTyrGluValProVal-379
 395-GlyAlaAsnArgLeuGlyThrAsnSerLeu-404
 411-ArgProThrProArg-415

Hydrophilic Regions - Hopp-Woods

27-SerLysSerGlyLeu-31
 59-AsnValGlnGluAspArgTrpAsp-66
 71-AspThrValLysGly-75
 77-AspTrpLeuGlyAspGlnAspAlaIle-85
 105-ProPheAspArgValGluSerGlyLysIleTyr-115
 123-ThrAlaGluHisGlyLysArgAlaValGluArgAlaCysAlaValAlaAspArgThrGly-142
 168-AspLeuIleArgAspGluAsnGlyAsp-176
 183-MetGluMetGluThrGlyGlu-189
 231-IleProLeuGluAspMetGlu-237
 255-GluGlyValArgGlyGluGly-261
 267-AlaAspGlyGluArgPheMetGlu-274
 276-TyrAlaProThrValLysAspLeuAlaSerArgAspValValSer-290
 297-IleTyrGluGlyArgGlyCysGlyLysAsnLysAspHisVal-310
 315-AspHisIleGlyAlaGluLysIleMetGluLysLeuProGlyIleArgGluIleSer-333
 340-AspProIleLysAspProIle-346
 371-GlnGlyAspGluTyrGluValProVal-379

g011**AMPHI Regions - AMPHI**

-673-

58-IleArgLeuIleAsnAlaAla-64
 83-AlaIleLeuThrLys-87
 116-AspValLeuHisArgTyrLeuProGlnMetLeuSerAlaGly-129
 142-ThrGlyAlaAlaGlyMetAlaAspMetGlyLysValMet-154

Antigenic Index - Jameson-Wolf

1-MetLysThrHisArgLysThrCysSer-9
 17-ThrAlaSerLysProAlaValSerIleArgHisProSerGluAspIleMetSerLeuLysThrArgLeuThrGluAspMetLysThrAlaMetArgAlaLysAspGlnVal-53
 66-LysGlnPheGluValAspGluArgThrGluAlaAspAspAlaLysIle-81
 88-MetValLysGlnArgLysAspGlyAlaLysIleTyrThrGluAlaGlyArgGlnAspLeuAlaAspLysGluAsnAlaGluIle-115
 127-SerAlaGlyGluIleArgThrAlaVal-135
 159-ThrArgLeuAlaGlyLysAlaAspMetGlyGluValAsnLysIleLeu-174

Hydrophilic Regions - Hopp-Woods

1-MetLysThrHisArgLysThrCys-8
 27-HisProSerGluAspIleMetSerLeuLysThrArgLeuThrGluAspMetLysThrAlaMetArgAlaLysAspGlnVal-53
 66-LysGlnPheGluValAspGluArgThrGluAlaAspAspAlaLysIle-81
 88-MetValLysGlnArgLysAspGlyAlaLysIleTyrThrGluAlaGlyArgGlnAspLeuAlaAspLysGluAsnAlaGluIle-115
 129-GlyGluIleArgThrAlaVal-135
 159-ThrArgLeuAlaGlyLysAlaAspMetGlyGluValAsnLysIleLeu-174

g012-1**AMPHI Regions - AMPHI**

18-AspLysLeuLeuGlnLeuMetArgPheLeuGlnPheLeuProGluPheLeuPheAlaLeuPheArgIle-41
 48-ArgAlaLeuLysPheAlaArgArg-55
 89-AsnAsnPheIleArgHisThr-95
 100-AlaAlaAlaCysArgAsp-105
 133-HisAlaAlaArgThrPhe-138
 160-GlnGlyPheTyrGlyVal-165
 179-GlyPheLeuArgPheGlyArgPheLeuProAlaLeuLeuGlnThrLeu-194

Antigenic Index - Jameson-Wolf

42-PheThrHisLysSerAsnArgAlaLeuLysPheAlaArgArgHisHis-57
 72-ArgHisPheArgHisHisThrHisArgThrAspAspArgLysArgSerGlyAsnAsnPheIleArgHisThrArg-96
 102-AlaCysArgAspLeuIleAspGlyAspGlyGlnArgAsn-114
 119-GlnThrProLysLeuArgSerArgGln-127
 137-ThrPheGlnSerGluGlnAsnLeu-144
 147-ArgLeuGlyAsnGlnLysHisArgArgAsnLeuMetThrGln-160
 173-IleGlnHisLysLysAlaGly-179

Hydrophilic Regions - Hopp-Woods

45-LysSerAsnArgAlaLeuLysPheAlaArgArgHisHis-57
 77-HisThrHisArgThrAspAspArgLysArgSerGly-88
 102-AlaCysArgAspLeuIleAspGlyAspGlyGlnArg-113
 121-ProLysLeuArgSerArgGln-127
 149-GlyAsnGlnLysHisArgArgAsnLeu-157
 173-IleGlnHisLysLysAlaGly-179

g015**AMPHI Regions - AMPHI**

36-LeuValGlyPheTrpLysAlaLeuProHis-45

107-MetCysCysIleAlaCys-112

Antigenic Index - Jameson-Wolf

29-TrpLysAsnProGluLysProLeu-36

90-MetArgAlaArgProArgSerThrLys-98

Hydrophilic Regions - Hopp-Woods

31-AsnProGluLysProLeu-36

90-MetArgAlaArgProArgSerThrLys-98

g018-2

AMPHI Regions - AMPHI

6-IleGlnHisLeuArg-10

15-HisLeuMetArgProCysGlnGlnValSerGlnMetPheGly-28

152-ArgIleGlyAsnGlyTyr-157

Antigenic Index - Jameson-Wolf

1-MetValGluArgHisIleGln-7

9-LeuArgAsnGlyHisLeu-14

27-PheGlyGlyArgAlaTyrAspPheArgAlaAspLysAlaAlaGly-41

67-TyrPheAlaAspAspLysPhe-73

78-LeuArgGlyAsnLeuArg-83

85-PheGlnThrAspLysAlaAspLeuArgThrGlyLysHisHisAlaAsnGly-101

108-AlaAspIleArgValAlaAla-114

136-ArgValAlaArgAsnLysAspMetArgAsnAlaGlyLeuHis-149

152-ArgIleGlyAsnGlyTyr-157

176-ArgThrAlaThrTyr-180

223-SerGluHisGlyPheArg-228

Hydrophilic Regions - Hopp-Woods

1-MetValGluArgHisIleGln-7

30-ArgAlaTyrAspPheArgAlaAspLysAlaAla-40

67-TyrPheAlaAspAspLysPhe-73

85-PheGlnThrAspLysAlaAspLeuArgThrGlyLysHisHisAla-99

108-AlaAspIleArgValAlaAla-114

136-ArgValAlaArgAsnLysAspMetArgAsn-145

g019-2

AMPHI Regions - AMPHI

33-ProAlaAspAsnIleGlu-38

55-GlyLysThrLeuAlaAspTyrGlyGlyTyrProSerAlaLeuAspAlaValLysGln-73

83-LeuGluAsnThrGlyAsp-88

90-AlaMetAlaGluAsnValArgLysGluTrpLeuLysSer-102

142-AlaAlaGluLeuValXxxAsnThrGlyLysLeuProSerGlyCysThrLysLeuLeuGluGlnAla-163

173-AspAlaTrpArgGlyValArgGlyLeu-181

195-AlaAlaLeuGlySerProPheAspGlyGlyThrGlnGly-207

215-AsnValIleGlyLysGluAlaArgLysSer-224

229-AlaLeuLeuSerGluMetGlu-235

259-AsnValProAlaAlaLeuAspTyrTyrGly-268

292-ArgArgTrpAspGluLeuAlaSerValIleSerHisMetProGluLysLeuGlnLys-310

329-GlnGluAlaGluLysLeuTyrLysGlnAla-338

451-ArgTyrIleSerPro-455

495-GlnGlyLeuMetGlnValMet-501

582-ArgAspTyrValLysLysValMet-589

-675-

Antigenic Index - Jameson-Wolf

22-SerSerThrAsnThr-26

28-ProAlaGlyLysThrProAlaAspAsnIleGluThrAlaAspLeuSerAlaSerValProThrArgProAlaGluProGluGlyLysThrLeuAlaAspTyrGlyGlyTyrProSerAla-67

69-AspAlaValLysGlnAsnAsnAspAlaAla-78

84-GluAsnThrGlyAspSerAlaMet-91

93-GluAsnValArgLysGluTrpLeu-100

103-LeuGlyAlaArgArgGln-108

115-GluTyrAlaLysLeuLysProGluGlyGlyAlaGlnGluValGluCysTyrAlaAspSerSerArgAsnAspTyrThrArgAlaAlaGlu-144

147-XXXAsnThrGlyLysLeuProSerGlyCys-156

170-GlyGlyAsnAspAlaTrpArgGlyValArg-179

182-LeuAlaGlyArgProThrThrAspGlyArgAsn-192

199-SerProPheAspGlyGlyThrGlnGlySerArgGluTyr-211

217-IleGlyLysGluAlaArgLysSerProAsnAla-227

232-SerGluMetGluSerGlyLeuSerProGluGlnArgSer-244

254-GlnSerGlnSerLeu-258

266-TyrTyrGlyLysValAlaAspArgArgGlnLeuThrAspAspGlnIle-281

287-AlaAlaLeuArgAlaArgArgTrpAspGlu-296

304-MetProGluLysLeuGlnLysSerProThr-313

320-ArgSerArgAlaAlaThrGlyAsnThrGlnGluAlaGluLysLeuTyrLys-336

339-AlaAlaThrGlyArgAsn-344

350-AlaGlyGluGluLeuGlyArgLysIleAspThrArgAsnAsnValProAspAlaGlyLysAsnSerVal-372

374-ArgMetAlaGluAspGlyAlaIleLys-382

389-ArgAsnSerArgThrAlaGlyAspAlaLysMetArgArgGlnAlaGlnAla-405

409-PheAlaThrArgGlyPheAspGluAspLysLeuLeu-420

438-SerAlaGluArgThrAspArgLysLeuAsnTyr-448

454-SerProPheLysAspThrValIle-461

464-AlaGlnAsnValAsnValAspProAla-472

478-IleArgGlnGluSerArgPhe-484

488-AlaGlnSerArgValGlyAla-494

504-ThrAlaArgGluIleAlaGly-510

520-TyrThrAlaAspGlyAsnIleArgMetGly-529

535-ArgThrLysArgArgLeuGlnAsnAsnGluIle-545

550-GlyTyrAsnAlaGlyProGlyArgAlaArgArgTrpGlnAlaAspThrProLeuGlu-568

579-SerGluThrArgAspTyrValLys-586

605-ProLeuLysGlnArgMetGlyThrValProAlaArg-616

Hydrophilic Regions - Hopp-Woods

30-GlyLysThrProAlaAspAsnIleGluThrAlaAspLeu-42

46-ValProThrArgProAlaGluProGluGlyLysThrLeuAla-59

69-AspAlaValLysGlnAsnAsnAspAlaAla-78

85-AsnThrGlyAspSerAlaMet-91

93-GluAsnValArgLysGluTrpLeu-100

-676-

103-LeuGlyAlaArgArgGln-108
 115-GluTyrAlaLysLeuLysProGluGlyGlyAlaGlnGluValGluCysTyrAlaAspSerSerArgAsnAsp
 TyrThrArgAlaAlaGlu-144
 150-GlyLysLeuProSerGlyCys-156

173-AspAlaTrpArgGly-177

186-ProThrThrAspGlyArgAsn-192
 201-PheAspGlyGlyThrGlnGlySerArgGlu-210
 217-IleGlyLysGluAlaArgLysSerProAsn-226
 232-SerGluMetGluSerGlyLeuSerProGluGlnArgSer-244
 270-ValAlaAspArgArgGlnLeuThrAspAspGlnIle-281
 287-AlaAlaLeuArgAlaArgArgTrpAspGlu-296

304-MetProGluLysLeuGlnLys-310
 320-ArgSerArgAlaAlaThr-325

327-AsnThrGlnGluAlaGluLysLeuTyrLys-336
 350-AlaGlyGluGluLeuGlyArgLysIleAspThrArgAsnAsnValProAspAlaGlyLys-369
 374-ArgMetAlaGluAspGlyAlaIleLys-382
 389-ArgAsnSerArgThrAlaGlyAspAlaLysMetArgArgGlnAlaGlnAla-405
 411-ThrArgGlyPheAspGluAspLysLeuLeu-420
 438-SerAlaGluArgThrAspArgLysLeu-446
 478-IleArgGlnGluSerArgPhe-484
 504-ThrAlaArgGluIleAlaGly-510

535-AspThrLysArgArgLeuGlnAsn-542
 554-GlyProGlyArgAlaArgArgTrpGlnAla-563

579-SerGluThrArgAspTyrValLys-586

606-LeuLysGlnArgMetGly-611

g023

AMPHI Regions - AMPHI

43-GluTyrProAlaTrpGlnAlaPhePheSerGlnAlaTrpValLysValPheThrGlnValSerPheIleAlaVal
 alPheLeuHisAlaTrpValGly-74
 77-AspLeuTrpMetAspTyrIleLys-84

Antigenic Index - Jameson-Wolf

1-MetValGluArgLysLeuThr-7
 40-LeuProLysGluTyrProAlaTrp-47

Hydrophilic Regions - Hopp-Woods

1-MetValGluArgLysLeuThr-7

g025

AMPHI Regions - AMPHI

9-AlaAlaCysThrAlaValAlaAlaLeuLeuGlyGlyCysAla-22
 35-GlyMetGlnThrValSerSer-41
 46-AsnProTyrGlyAlaThrProTyr-53
 126-AspPheArgAlaTrpAsnGlyMetThrAsp-135
 140-IleGlyGlnIleValLysVal-146
 173-ValLysProAlaAla-177
 181-ValGlnSerAlaProGlnPro-187
 212-SerGlyThrArgSer-216
 229-LysValValAlaAspPhe-234

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265-GlyLeuArgGlyTyrGlyAsn-271

Antigenic Index - Jameson-Wolf

22-AlaThrGlnGlnPro-26
 108-ValArgGlyAspThr-112
 115-AsnIleSerLysArgTyrHisIleSerGlnAspAspPheArgAla-129
 131-AsnGlyMetThrAspAsnThrLeu-138
 144-ValLysValLysProAlaGly-150
 152-AlaAlaProLysThrAlaAlaValGluSerArgProAlaValPro-166
 171-ThrProValLysProAlaAlaGlnProProValGlnSerAlaProGlnPro-187
 190-ProAlaAlaGluAsnLysAlaValPro-198
 202-ProAlaProGlnSerProAlaAlaSerProSerGlyThrArgSerValGly-218
 224-ArgProThrGlnGlyLysValValAlaAspPheGlyGlyGlyAsnLysGlyValAsp-242
 255-AlaAspGlyLysVal-259
 264-SerGlyLeuArgGlyTyrGly-270
 285-TyrGlyHisAsnGln-289
 292-LeuValGlyGluGlyGlnGlnValLysArgGlyGlnGln-304
 309-GlyAsnThrAspAlaSerArgThrGlnLeu-318
 320-PheGluValArgGlnAsnGlyLysProValAsnProAsnSer-333

Hydrophilic Regions - Hopp-Woods

108-ValArgGlyAspThr-112
 120-TyrHisIleSerGlnAspAspPheArg-128
 144-ValLysValLysPro-148
 157-AlaAlaValGluSerArgProAla-164
 171-ThrProValLysProAlaAla-177
 190-ProAlaAlaGluAsnLysAlaValPro-198
 212-SerGlyThrArgSer
 235-GlyGlyGlyAsnLysGlyValAsp-242
 255-AlaAspGlyLysVal-259
 295-GluGlyGlnGlnValLysArgGlyGln-303
 311-ThrAspAlaSerArgThr-316
 322-ValArgGlnAsnGlyLysProValAsn-330
g032

AMPHI Regions - AMPHI

9-AlaValLeuArgArgProArgPheGlu-17
 67-ProPheAlaGlyAsnValTyrProArgPheValGlnIle-79
 114-ValHisGlyGlnIleGlnHisProValGlnProPheLeuArg-127
 134-LeuGlyLeuLeuArgArgPheAspVal-142
 174-GlnThrAlaLeuArg-178
 204-LeuCysGlnGlnCysLysGlnPhePheGlnIleAla-215

Antigenic Index - Jameson-Wolf

1-MetArgArgAsnVal-5
 10-ValLeuArgArgProArgPhe-16

 28-ArgAlaValProAlaGlyLysGlnGlyPhe-37

 41-CysArgLeuThrGlnArg-46
 58-GlyGlnArgAsnLeu-62
 100-LeuGluGlnArgValValAlaHisArgGlnArgVal-111
 138-ArgArgPheAspValGlyGlyArgValGlyAla-148

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151-ProAlaPheAspGlnProGlyAla-158

160-LeuProProArgArgGlnLeuAlaArgGlnArgProThrVal-173

176-AlaLeuArgGlnProProGlnArgArgArgLysIleAlaProArgGlnValLeu-193

202-ArgHisLeuCysGlnGlnCysLys-209

216-ProValCysArgAsnArgValLeuArg-224

236-ValLysIleArgArgLysProValGlnAsnHisAsnArgProThrGlnIleSerLysAsnGln-256

Hydrophilic Regions - Hopp-Woods

1-MetArgArgAsnVal-5

10-ValLeuArgArgProArgPhe-16

41-CysArgLeuThrGln-45

100-LeuGluGlnArgValValAlaHisArgGlnArgVal-111

138-ArgArgPheAspValGlyGly-144

161-ProProArgArgGlnLeuAlaArgGlnArgProThrVal-173

177-LeuArgGlnProProGlnArgArgArgLysIleAlaPro-189

218-CysArgAsnArgValLeu-223

236-ValLysIleArgArgLysProValGlnAsnHisAsnArgProThrGlnIleSerLysAsnGln-256

g033-2**AMPHI Regions - AMPHI**

6-GlnTyrGlyGlyLeuAlaGlyPheProLysArgCysGluSerGlu-20

64-GlyGlnAlaPheGluAlaLeuAsnCys-72

95-ValGlyAlaLeuProLysTyrLeuAlaSerAsnValValArgAspMetHisGlyLeuLeuSerThrVal-117

120-GlnThrGlyLysValLeuAspLysIleProGlyAlaMetGlu-133

142-IleLysThrLeuAlaGlu-147

157-SerLeu

PheGluAsnPhe-162

168-GlyProValAspGlyHisAsnValGluAsnLeuValAspValLeuLysAspLeuArgSerArg-188

207-AlaGluAsnAspPro-211

213-LysTyrHisAlaValAlaAsnLeuProLysGluGlyGlyAla-226

242-TyrThrGlnValPheGlyLys-248

280-PheProAspArgTyrPheAspVal-287

307-LysProValValAlaIleTyrSer-314

316-PheLeuGlnArgAlaTyrAspGlnLeu-324

363-CysValProAsnMet-367

390-AlaProAlaAlaValArgTyrProArgGlyThr-400

406-ValSerAspGlyMetGluThrValGlu-414

419-IleIleArgArgGlu-423

453-MetArgPheValLysProIleAspGluGlu-462

469-ArgSerHisAspArgIle-474

489-AlaValLeuGluValLeu-494

510-AspThrValThrGluHisGlyAspProLysLysLeuLeu-522

Antigenic Index - Jameson-Wolf

11-AlaGlyPheProLysArgCysGluSerGluTyrAspAla-23

28-HisSerSerThrSerIle-33

41-AlaAlaAspLysLeuLeuGlyGlyAspArgArgSerVal-53

57-GlyAspGlyAlaMetThr-62

72-CysAlaGlyAspMetAspVal-78

85-AsnAspAsnGluMetSerIle-91

105-AsnValValArgAspMetHisGly-112
 117-ValLysAlaGlnThrGlyLysValLeuAspLysIleProGly-130
 134-PheAlaGlnLysValGluHisLysIleLysThrLeuAlaGluGluAlaGluHisAlaLysGln-154
 166-TyrThrGlyProValAspGlyHisAsn-174
 181-ValLeuLysAspLeuArgSerArgLysGlyProGln-192
 197-IleThrLysLysGlyAsnGlyTyrLysLeuAlaGluAsnAspProValLys-213
 219-AsnLeuProLysGluGlyGlyAlaGlnMetProSerGluLysGluProLysProAlaAlaLysProThrTyr-242
 253-ArgAlaAlaAlaAspSerArgLeu-260
 266-AlaMetArgGluGlySerGlyLeuValGluPheGluGlnArgPheProAspArgTyrPhe-285
 345-ValGlyAlaAspGlyProThrHis-352
 370-AlaAlaProSerAspGluAsnGluCysArg-379
 395-ArgTyrProArgGlyThrGlyThrGlyAlaProValSerAspGlyMetGluThrValGluIleGlyLysGlyIleIleArgArgGluGlyGluLysThrAla-428
 457-LysProIleAspGluGluLeuIle-464
 467-LeuAlaArgSerHisAspArgIleValThrLeuGluGluAsnAlaGluGlnGlyGlyAlaGlyGly-488
 511-ThrValThrGluHisGlyAspProLysLysLeuLeuAspAspLeuGlyLeu-527
 530-GluAlaValGluArgArgValArgGluTrpLeuProAspArgAspAlaAlaAsn-547

Hydrophilic Regions - Hopp-Woods

13-PheProLysArgCysGluSerGluTyrAsp-22
 41-AlaAlaAspLysLeuLeuGlyGlyAspArgArgSerVal-53
 74-GlyAspMetAspVal-78
 85-AsnAspAsnGluMetSerIle-91
 106-ValValArgAspMetHis-111
 123-LysValLeuAspLysIleProGly-130
 134-PheAlaGlnLysValGluHisLysIleLysThrLeuAlaGluGluAlaGluHisAlaLysGln-154
 181-ValLeuLysAspLeuArgSerArgLysGlyPro-191
 197-IleThrLysLysGlyAsnGly-203
 205-LysLeuAlaGluAsnAspProValLys-213
 220-LeuProLysGluGlyGlyAla-226
 228-MetProSerGluLysGluProLysProAlaAla-238
 253-ArgAlaAlaAlaAspSerArgLeu-260
 266-AlaMetArgGluGlySerGly-272
 274-ValGluPheGluGlnArgPheProAspArgTyrPhe-285
 372-ProSerAspGluAsnGluCys-378
 405-ProValSerAspGlyMetGluThrValGluIleGlyLysGlyIleIleArgArgGluGlyGluLysThrAla-428
 457-LysProIleAspGluGluLeuIle-464
 467-LeuAlaArgSerHisAspArgIleValThrLeuGluGluAsnAlaGluGlnGlyGly-485
 511-ThrValThrGluHisGlyAspProLysLysLeuLeuAsp-523
 530-GluAlaValGluArgArgValArgGluTrpLeuProAspArgAspAlaAlaAsn-547

g034

AMPHI Regions - AMPHI

35-LeuAspHisAlaAla-39
 52-AsnLeuGluGlnMetArgAlaIleMetGluAlaAlaAspGln-65
 94-AlaValGluGluPheProHisIlePro-102
 152-ThrValValAsnPheSer-157

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168-IleGlyValLeuGlyAsnLeuGluThrGly-177
 197-LeuThrSerValGluAspAlaValArgPheValLysAspThrGly-211
 225-TyrLysPheThrArgProProThrGly-234
 236-ValLeuArgIleAspArgIleLysGluIleHisGlnAlaLeu-249
 261-SerValProGlnGluTyrLeuLysValIleAsnGluTyrGlyGlyAsnIleGlyGluThrTyrGlyValPro
 ValGluGluIleValGluGlyIleLysHisGly-295
 314-ArgArgTyrLeuAlaGluAsn-320
 330-LeuGlyLysThrIleGluAlaMetLys-338

Antigenic Index - Jameson-Wolf

20-LeuProLysGluThrGln-25
 37-HisAlaAlaGluAsnSerTyrGly-44
 54-GluGlnMetArgAlaIleMetGluAlaAlaAspGlnVal-66
 75-SerAlaGlyAlaArgLysTyrAla-82
 106-HisGlnAspHisGlyAlaSerProAspValCysGlnArgSerIle-120
 132-SerLeuLeuGluAspGlyLysThrProSerSerTyrGluTyr-145
 164-ValGluGlyGluIle-168
 173-AsnLeuGluThrGlyGluAlaGlyGluGluAspGlyValGlyAla-187
 191-LeuSerHisAspGln-195
 199-SerValGluAspAlaValArgPheValLysAspThrGlyValAsp-213
 221-ThrSerHisGlyAla-225
 227-LysPheThrArgProProThrGlyAspValLeuArgIleAspArgIleLysGluIleHis-246
 258-GlySerSerSerValPro-263
 271-AsnGluTyrGlyGlyAsnIleGlyGlu-279
 287-GluIleValGluGlyIleLysHisGlyValArgLysValAsnIleAspThrAspLeuArgLeuAlaSerThr
 GlyAlaVal-313
 316-TyrLeuAlaGluAsnProSerAspPheAspProArgLysTyrLeuGlyLysThrIleGluAlaMetLys-33
 8
 350-CysGluGlyGlnAlaGlyLysIleLysProValSerLeuGluLysMetAlaSerArgTyrAlaLysGlyGlu
 Leu-374

Hydrophilic Regions - Hopp-Woods

54-GluGlnMetArgAlaIleMetGluAlaAlaAspGlnVal-66
 76-AlaGlyAlaArgLysTyrAla-82
 108-AspHisGlyAlaSerProAspValCysGln-117
 132-SerLeuLeuGluAspGlyLysThrProSer-141
 164-ValGluGlyGluIle-168
 175-GluThrGlyGluAlaGlyGluGluAspGlyValGlyAla-187
 199-SerValGluAspAlaValArgPheValLysAspThrGlyVal-212
 235-AspValLeuArgIleAspArgIleLysGluIleHis-246
 287-GluIleValGluGlyIleLysHisGlyValArgLysValAsnIleAspThrAspLeuArgLeu-307
 320-AsnProSerAspPheAspProArgLysTyrLeu-330
 333-ThrIleGluAlaMetLys-338
 352-GlyGlnAlaGlyLysIleLysProValSerLeuGluLysMetAlaSerArgTyrAlaLysGlyGluLeu-37
 4

g036

AMPHI Regions - AMPHI

59-SerSerGlyArgPheCysGlnThrIleLysAlaAla-70
 97-AlaAspGlyLeuGlnThrValSerSerAlaAla-107
 142-AlaValArgArgValProArgGlnLeuArgAspSerArg-154
 215-CysArgThrThrHisLysThrLeuArgProTyrAlaArgProGlnArg-231

Antigenic Index - Jameson-Wolf

16-ProAlaArgThrSerSerSerArgArgCysValProSerGlyArgCys-31
 35-TyrSerSerArgAlaAspAlaThrProArgArgArgHisSerGlyAlaVal-51

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55-CysSerSerAspSerSerGlyArgPhe-63

74-SerPheSerAlaArgLysThrCysSerAspGlyGluThrSerAlaAspSerAsnTrpArg-93
 109-AlaAlaGlnSerAspGlyGluAlaGlyArg-118
 133-SerGlyArgPheCysCysGlyArgArgAlaValArgArgValProArgGlnLeuArgAspSerArgArgArg
 GlyArgAlaArgGluAsnArgArgArgSerAlaTyr-168
 171-CysLeuArgArgAlaAspGlyPheProVal-180
 182-ThrHisCysArgCysArgLeuLysArgArgThrProArgGlyGlyGlnCys-198
 200-ProProTyrArgLeuAspAsnArgSerAsnGlyGlyGlySerAlaCysArgThrThrHisLysThrLeuArg
 ProTyrAlaArgProGlnArgArgValCysSer-234
 239-AlaAlaArgArgArgHisArgAlaTrpGlyCysArgLeuLysAlaCysArg-255
 258-LeuProAsnLeuAlaProArgArgCysArgTyrAlaVal-270

Hydrophilic Regions - Hopp-Woods

17-AlaArgThrSerSerSerArgArgCysValPro-27
 37-SerArgAlaAspAlaThrProArgArgArgHisSerGly-49
 55-CysSerSerAspSerSerGlyArg-62
 76-SerAlaArgLysThrCysSerAspGlyGluThrSerAla-88
 110-AlaGlnSerAspGlyGluAlaGlyArg-118
 137-CysCysGlyArgArgAlaValArgArgValProArgGlnLeuArgAspSerArgArgGlyArgAlaArg
 GluAsnArgArgArgSerAlaTyr-168
 171-CysLeuArgArgAlaAspGlyPhePro-179
 182-ThrHisCysArgCysArgLeuLysArgArgThrProArgGlyGlyGln-197
 202-TyrArgLeuAspAsnArgSerAsnGlyGly-211
 213-SerAlaCysArgThrThrHisLysThrLeuArgProTyrAlaArgProGlnArgArgValCys-233
 239-AlaAlaArgArgArgHisArgAlaTrp-247
 251-LeuLysAlaCysArg-255
 262-AlaProArgArgCysArgTyrAlaVal-270

g038**AMPHI Regions - AMPHI**

161-GlyLysLeuSerAlaValGlnGluValGluLys-171
 178-AlaProIleAlaSerLeuAsn-184
 195-GluPheGlyGlnPheLeuGluProValArgThrTyrArgArgGlnTyrGlyVal-212

Antigenic Index - Jameson-Wolf

2-ThrAspPheArgGlnAspPhe-8
 22-GluPheThrThrLysAlaGlyArgArgSerPro-32
 38-GlyLeuPheAsnAspGlyAlaSer-45
 58-IleGluSerGlyIleArg-63
 85-LeuAlaGluLysGlyVal-90
 96-TyrAsnArgLysGluAlaLysAspArgGlyGluGlyGlyVal-109
 125-ValIleSerAlaGlyThrSerValArgGluSerIleLysLeuIleGluAlaGluGlyAlaThr-145
 153-LeuAspArgMetGluLysGlyThrGlyLysLeuSerAla-165
 167-GlnGluValGluLysGlnTyrGlyLeu-175
 191-GlnAsnAsnProGluPheGlyGln-198
 201-GluProValArgThrTyrArgArgGlnTyrGlyValGlu-213

Hydrophilic Regions - Hopp-Woods

2-ThrAspPheArgGlnAspPhe-8
 22-GluPheThrThrLysAlaGlyArgArgSer-31
 85-LeuAlaGluLysGlyVal-90
 96-TyrAsnArgLysGluAlaLysAspArgGlyGluGly-107

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130-ThrSerValArgGluSerIleLysLeuIleGluAlaGluGlyAlaThr-145

153-LeuAspArgMetGluLysGlyThrGlyLys-162

167-GlnGluValGluLysGlnTyr-173

204-ArgThrTyrArgArgGlnTyrGly-211

g040**AMPHI Regions - AMPHI**

6-SerPheValAlaHisPhe-11

14-AlaAlaProTyrIleArgGlnMetArgGlyThr-24

38-GlyThrLeuAsnLysLeu-43

65-HisPheLeuAspArg-69

78-ProHisTyrCysArgGlyLeuArgValThrAspGluThr-90

95-AlaGlnGlnPheAlaGly-100

113-SerValSerGlyPheAlaArgAlaPro-121

136-MetGlyValIleAsp-140

146-TyrAlaGlyValIleArg-151

207-LeuSerAspGlyIleSerArgProAspGlyThrLeuAlaGlu-220

223-SerAlaGlnGluAlaGlnSerLeuAlaGluHisAla-234

244-SerAlaValAlaAlaLeuGluGly-251

277-IleGlyThrSerIle-281

289-IleArgGlnAlaHisSerGlyAspIleProHisIleAlaAlaLeuIleArgProLeuGlu-308

320-TyrLeuGluAsnHisIleSerGluPheSerIle-330

338-TyrGlyCysAlaAlaLeuLysThrPheAlaGluAlaAsp-350

371-ArgLeuLeuAlaHisIle-376

386-SerArgLeuPheAla-390

Antigenic Index - Jameson-Wolf

2-AsnAlaProAspSer-6

11-PheArgGluAlaAlaProTyrIleArgGlnMetArgGlyThrThr-25

29-GlyIleAspGlyArgLeuLeuGluGlyGlyThr-39

74-GlnGlyArgThrProHisTyrCysArgGlyLeuArgValThrAspGluThrSerLeuGlyGln-94

101-ThrValArgSerArgPheGlu-107

119-ArgAlaProSerVal-123

134-ArgProMetGlyVal-138

140-AspGlyThrAspMetGluTyr-146

150-IleArgLysThrAspThrAlaAla-157

162-LeuAspAlaGlyAsn-166

173-LeuGlyHisSerTyrGlyGlyLysThrPheAsn-183

208-SerAspGlyIleSerArgProAspGlyThrLeuAla-219

222-LeuSerAlaGlnGluAlaGlnSerLeuAla-231

234-AlaAlaSerGluThrArgArgLeuIle-242

249-LeuGluGlyGlyVal-253

261-GlyAlaAlaAspGlySerLeuLeu-268

272-PheThrArgAsnGlyIleGlyThrSerIleAlaLysGluAla-285

290-ArgGlnAlaHisSerGlyAspIle-297

305-ArgProLeuGluGluGlnGly-311

315-HisArgSerArgGluTyrLeu-321

329-SerIleLeuGluHisAspGlyAspLeuTyr-338

345-ThrPheAlaGluAlaAspCysGlyGlu-353

361-ProGlnAlaGlnAspGlyGlyTyrGlyGluArgLeu-372

377-IleAspLysAlaArgGly-382

393-ThrAsnThrGlyGlu-397

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402-ArgGlyPheGlnThrAlaSerGluAspGluLeuProGluThrArgArgLysAspTyrArgSerAsnGlyArg
AsnProHisIleLeu-430

Hydrophilic Regions - Hopp-Woods

11-PheArgGluAlaAlaPro-16
30-IleAspGlyArgLeuLeuGlu-36
84-LeuArgValThrAspGluThrSerLeu-92
102-ValArgSerArgPheGlu-107
140-AspGlyThrAspMetGluTyr-146
150-IleArgLysThrAspThrAlaAla-157
210-GlyIleSerArgProAspGlyThrLeu-218
222-LeuSerAlaGlnGluAlaGlnSerLeuAla-231
234-AlaAlaSerGluThrArgArgLeuIle-242
291-GlnAlaHisSerGlyAsp-296
305-ArgProLeuGluGluGlnGly-311
315-HisArgSerArgGluTyrLeu-321
332-GluHisAspGlyAspLeu-337
345-ThrPheAlaGluAlaAspCysGlyGlu-353
362-GlnAlaGlnAspGlyGlyTyrGlyGlu-370

377-IleAspLysAlaArgGly-382

402-ArgGlyPheGlnThrAlaSerGluAspGluLeuProGluThrArgArgLysAspTyrArgSerAsnGlyArg
Asn-426

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AMPHI Regions - AMPHI

6-AspProTyrArgHisPheGluAsnLeuAspSerAlaGluThr-19
45-AspGlyIleLeuAsnGlnMetGlnAsp-53
77-ProLysGlyValTyrArgMetCysThrAlaAla-87
102-ValAlaAspPheAspGluLeuLeu-109
117-GlyValSerHisLeuValGluGlnProAsn-126
218-MetValAsnAlaTrpArgTyrLeuAsp-226
232-IleAspLeuIleGluAlaSer-238
257-ProLeuAsnLeuProAsnAspCysAspValValGlyTyrLeu-270
317-GlnAlaLeuGluSerValGluThr-324
331-AlaSerLeuLeuGluAsnValGlnGlyArg-340
382-AspPheThrThrProLeu-387
451-GlyPheGlyIleProGluLeuProHisTyrLeuGlySerValGlyLys-466
493-AlaAlaGlnGlyIleSerLysHisLysSerValAspAspLeuLeuAlaValValArgAspLeuSerGluArg
-516
519-SerSerProLysHis-523
541-ValArgGluProGlnSer-546
556-LeuThrAspMetIleArgTyr-562
571-TrpThrAspGluTyrGlyAsnProGlnLysTyrGluAlaCysLysArgArgLeuGly-589
591-LeuSerProTyrHisAsnLeuSerAspGlyIleAspTyrProPro-605
620-AlaHisAlaLeuLys-624
645-GlyHisThrGlyAsn-649
651-ThrGlnArgGluSer-655

Antigenic Index - Jameson-Wolf

1-MetLysSerTyrProAspProTyrArgHisPheGluAsnLeuAspSerAlaGluThrGln-20

26-AlaAsnAlaGluThrArgAlaArgPheLeuAsnAsnAspLysAlaArgAlaLeuSerAspGlyIle-47
51-MetGlnAspThrArgGlnIleProPhe-59

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61-GlnGluHisArgAlaArg-66
 72-GlnAsnAlaGluTyrProLysGlyVal-80
 89-TyrArgSerGlyTyrProGluTrp-96
 104-AspPheAspGluLeuLeuGlyAspValTyr-114
 123-GluGlnProAsnArg-127
 132-LeuAsnLysSerGlyGlyAspThr-139
 145-ValAspLeuGluAlaGlyGluLeuValGlu-154
 161-AlaGlyLysAsnHisValSerTrpArgAspGluAsnSerVal-174
 178-ProAlaTrpAspGluArgGlnLeuThrGluSerGlyTyrProArgGluValTrpLeuValGluArgGlyLys
 SerPheGluGluSerLeuPro-208
 211-GlnIleAspLysGlyAla-216
 223-ArgTyrLeuAspProGlnGlySerProIleAspLeuIleGluAlaSerAspGlyPheTyr-242
 249-ValSerSerGluGlyGlyAlaLysProLeuAsnLeuProAsnAspCysAspVal-266
 278-LeuArgLysAspTrpHisArgAlaAsnGlnSerTyrProSer-291
 298-LysLeuAsnArgGlyGluLeuGly-305
 313-ProAspGluThrGlnAla-318
 320-GluSerValGluThrThrLys-326
 337-ValGlnGlyArgLeuLysAla-343
 345-ArgPheAlaAspSerLysTrpGlnGluAlaGluLeuProHisLeuProSerGly-362
 365-GluMetThrAspGlnProTrpGlyGly-373
 405-GlnProGlnGlnPheValSerAspGlyIleGluVal-416
 422-ValSerSerAspGlyGluArgIle-429
 435-GlyLysAsnAlaAlaProAspThr-442
 479-AsnIleArgGlyGlyGluPheGlyProArgTrpHis-491
 496-GlyIleSerLysHisLysSerValAspAsp-505
 511-ArgAspLeuSerGluArgGlyMetSerSerProLysHis-523
 528-GlyGlySerAsnGly-532
 540-PheValArgGluProGlnSerIleGlyAla-549
 568-GlySerSerTrpThrAspGluTyrGlyAsnProGlnLysTyrGluAlaCysLysArgArgLeuGlyGluLeu
 SerProTyr-594
 596-AsnLeuSerAspGlyIleAspTyrPro-604
 610-ThrSerLeuSerAspAspArgValHis-618
 627-AlaLysLeuArgGluThrSerProGlnSer-636
 639-TyrSerProAspGlyGlyGlyHisThrGlyAsnGlyThrGlnArgGluSerAlaAspLysLeu-659

Hydrophilic Regions - Hopp-Woods

3-SerTyrProAspProTyrArgHis-10
 12-GluAsnLeuAspSerAlaGluThr-19
 26-AlaAsnAlaGluThrArgAlaArgPheLeuAsnAsnAspLysAlaArgAlaLeuSer-44
 51-MetGlnAspThrArgGln-56
 61-GlnGluHisArgAlaArg-66
 104-AspPheAspGluLeuLeuGly-110
 134-LysSerGlyGlyAsp-138
 145-ValAspLeuGluAlaGlyGluLeuValGlu-154
 166-ValSerTrpArgAspGluAsnSer-173
 180-TrpAspGluArgGlnLeuThr-186
 198-GluArgGlyLysSerPheGluGluSerLeu-207
 211-GlnIleAspLysGlyAla-216
 233-AspLeuIleGluAlaSerAsp-239
 250-SerSerGluGlyGlyAlaLys-256
 278-LeuArgLysAspTrpHisArg-284
 298-LysLeuAsnArgGlyGluLeuGly-305
 313-ProAspGluThrGlnAla-318
 320-GluSerValGluThrThrLys-326
 337-ValGlnGlyArgLeuLysAla-343

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347-AlaAspSerLysTrpGlnGluAlaGluLeu-356
 412-AspGlyIleGluVal-416
 424-SerAspGlyGluArg-428
 436-LysAsnAlaAlaProAsp-441
 481-ArgGlyGlyGlyGluPheGly-487
 496-GlyIleSerLysHisLysSerValAspAsp-505
 511-ArgAspLeuSerGluArgGlyMetSerSer-520
 540-PheValArgGluProGlnSer-546
 571-TrpThrAspGluTyrGlyAsn-577
 579-GlnLysTyrGluAlaCysLysArgArgLeuGlyGlu-590
 612-LeuSerAspAspArgValHis-618
 627-AlaLysLeuArgGluThrSer-633
 650-GlyThrGlnArgGluSerAlaAspLysLeu-659

g042**AMPHI Regions - AMPHI**

18-LeuSerAsnThrSerThr-23
 33-AlaValArgSerMet-37
 138-SerProLeuValArgIleLeuProLeuSer-147
 151-SerMetValValAlaPhePheAlaAsn-159

Antigenic Index - Jameson-Wolf

16-SerAlaLeuSerAsnThrSerThrAlaAlaGlyProSerCys-29
 49-TyrSerLysGluThrGlyCysProCysProSerLeuArgLysAspSerSerThrGlyGlyArgProMetSerProCys-74
 77-LeuAlaAsnArgAspCysValProLysAlaAspThr-88
 93-ThrAspSerThrSerProArgProLeu-101
 109-TrpAlaAsnSerAlaSer-114
 120-SerAlaThrArgAlaSerLeuProLysIleArgAspArgVal-133
 160-CysSerTyrAlaSerAlaProGlyPro-168
 175-GlyLeuTrpArgCysArgAspSerGlnSerGlySerAsnSer-188
 197-AsnAlaGlyCysLys-201

Hydrophilic Regions - Hopp-Woods

49-TyrSerLysGluThrGlyCys-55
 59-SerLeuArgLysAspSerSerThrGlyGlyArgProMet-71
 78-AlaAsnArgAspCysValProLysAlaAspThr-88
 94-AspSerThrSerProArg-99
 122-ThrArgAlaSerLeuProLysIleArgAspArgVal-133
 178-ArgCysArgAspSerGlnSerGly-185

g043-2**AMPHI Regions - AMPHI**

21-GluArgPheValGluProSerArg-28
 34-LysValHisArgGlyLeuAspGlyAlaAlaArgPheAspGluGlyGluArg-50
 59-AlaSerGlyAspGlyPhe-64
 81-AspAlaAlaGlyAspPheGlyAspGlyGlnArg-91
 98-GlnAsnIleGlyGlyPheValTyr-105

Antigenic Index - Jameson-Wolf

1-MetProSerAlaPro-5
 12-ArgArgGlnLysSerValMetProProGluArgPheValGluProSerArg-28
 34-LysValHisArgGlyLeuAspGlyAlaAlaArgPheAspGluGlyGluArgValPhe-52
 56-AlaAlaGlnAlaSerGlyAspGlyPheAla-65
 79-GlnProAspAlaAlaGlyAspPheGlyAspGlyGlnArgAlaGlyGlu-94
 116-AlaGluGlyGluAla-120

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Hydrophilic Regions - Hopp-Woods

12-ArgArgGlnLysSerValMetProProGluArgPheValGluProSerArg-28
 34-LysValHisArgGlyLeuAspGlyAlaAlaArgPheAspGluGlyGluArgValPhe-52
 81-AspAlaAlaGlyAspPheGlyAspGlyGlnArgAlaGlyGlu-94
 116-AlaGluGlyGluAla-120

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AMPHI Regions - AMPHI

6-ArgProThrSerSerPro-11
 46-ThrSerCysSerGlyLeuMetValSer-54
 64-PheSerLeuPheSerSer-69
 113-LysSerAlaSerSer-117
 143-SerCysAsnAlaPheSerSer-149

Antigenic Index - Jameson-Wolf

6-ArgProThrSerSerProProArgArgAlaCys-16
 20-IleArgThrArgSerSerAlaLysArgLysThrCysAsnAlaProGlyGlnSerIleArgProAlaSerCysSer-44
 57-ProAsnMetGluArgLeuPro-63
 75-SerArgTyrSerLeuGluArgThrArgAlaMetArgProGlyMetLeuAsnArgSerAlaAla-95
 105-SerLeuArgGluSerAlaSerSerLysSerAlaSerSerAlaProAlaArgTyrAsnValLysGlyAspAlaProLeuPro-131
 133-ThrValTrpThrSerArgArgLeuProVal-142
 169-GluProThrCysProLeuProLys-176

Hydrophilic Regions - Hopp-Woods

7-ProThrSerSerProProArgArgAlaCys-16
 20-IleArgThrArgSerSerAlaLysArgLysThrCysAsn-32
 36-GlnSerIleArgProAlaSer-42
 58-AsnMetGluArgLeuPro-63
 75-SerArgTyrSerLeuGluArgThrArgAlaMetArg-86
 105-SerLeuArgGluSerAlaSerSerLysSerAlaSer-116
 122-TyrAsnValLysGlyAspAlaProLeu-130

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AMPHI Regions - AMPHI

17-IleAlaAspIleAlaGlnAspLeuProAspGlyAla-28
 62-AlaGluAsnIleGlyAlaVal-68
 89-AsnIleCysTyrArgLeuAlaLysGlnLeuGlu-99
 141-TyrIleAspGluIleAspValPhe-148
 161-SerAlaLeuLeuAla-165
 185-LeuLeuGluGlyAsn-189
 202-IleGlySerIleLeuAla-207
 247-SerGlyIleLysTrpProGluGlyCys-255

257-IleAlaAlaValValArgAlaGlyThrGly-266

293-IleLeuAsnGluLeuGluLysLeuIle-301

Antigenic Index - Jameson-Wolf

5-GlnAlaArgArgGlyGlyLeuLeu-12
 20-IleAlaGlnAspLeuProAspGlyAlaAsp-29
 36-TyrArgAsnAsnArgLeu-41
 51-IleGluGlyAspGlu-55
 70-ProGluLeuArgProLysGluThrSerThrArgArgIleMet-83
 96-LysGlnLeuGluHis-100

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106-IleIleGluCysArgProArgArgAlaGluTrpIle-117
 119-GluAsnLeuAspAsnThrLeu-125
 130-SerAlaThrAspGluThrLeuLeuAspAsnGluTyrIleAspGluIleAsp-146
 152-ThrAsnAspAspGluSerAsnIle-159
 168-LeuGlyAlaLysArgVal-173
 178-AsnArgSerSerTyr-182
 186-LeuGluGlyAsnLysIle-191
 208-HisIleArgArgGlyAspIleVal-215
 219-ProIleArgArgGlyThrAlaGluAlaIleGlu-229
 232-AlaHisGlyAspLysLysThrSer-239
 242-IleGlyArgArgIleSerGlyIleLysTrpProGluGlyCysHis-256
 262-ArgAlaGlyThrGlyGluThr-268
 277-ValIleGlnAspGlyAspHis-283
 288-ValSerArgArgArgIleLeuAsnGluLeuGluLys-299

Hydrophilic Regions - Hopp-Woods

5-GlnAlaArgArgGlyGly-10
 20-IleAlaGlnAspLeuProAspGlyAlaAsp-29
 51-IleGluGlyAspGlu-55
 70-ProGluLeuArgProLysGluThrSerThrArgArgIleMet-83
 106-IleIleGluCysArgProArgArgAlaGluTrpIle-117
 130-SerAlaThrAspGluThrLeuLeu-137
 140-GluTyrIleAspGluIleAsp-146
 152-ThrAsnAspAspGluSerAsnIle-159
 168-LeuGlyAlaLysArgVal-173
 186-LeuGluGlyAsnLysIle-191
 209-IleArgArgGlyAspIle-214
 219-ProIleArgArgGlyThrAlaGluAlaIleGlu-229
 232-AlaHisGlyAspLysLysThrSer-239
 242-IleGlyArgArgIleSer-247
 277-ValIleGlnAspGlyAsp-282
 289-SerArgArgArgIleLeuAsnGluLeuGluLys-299

g049-2**AMPHI Regions - AMPHI**

15-GlnHisLeuLeuGlu-19
 34-AspHisAlaValAspGlyIleGlyGlnMet-43
 50-GlnProPheGlyGln-54
 61-GluHisPheAlaProValAspGlyPheArg-70
 103-IleGlyValPheProAlaLeu-109
 199-SerAspPheArgArg-203
 217-AlaArgLeuThrGlnValPheGlnAlaPhePhe-227
 241-ValLeuAsnLeuCysArgArgAla-248

Antigenic Index - Jameson-Wolf

6-PheAspTyrArgThrArgLeu-12
 21-IleSerLysGluArgHis-26
 31-ArgArgThrAspHisAlaValAspGly-39
 49-AspGlnProPheGly-53
 64-AlaProValAspGlyPheArgValGlnAspIleAspGlyHisGlnArgLeuPhe-83
 90-PheArgAsnProValCysArgArgThrGlyPhe-100
 122-GlyIleGluProAspSerProProArgPhe-131
 135-PheArgAsnArgHisLeuGlnGlySerLeuArgVal-146

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150-PheLeuLysAspAspHisArgValGly-158
 199-SerAspPheArgArgPheGlyGlnArgHisIleGlyArgArgGlyIleHis-215
 244-LeuCysArgArgAlaAsnProArgProLysArgSerLeu-256

Hydrophilic Regions - Hopp-Woods

21-IleSerLysGluArgHis-26
 31-ArgArgThrAspHisAlaVal-37
 67-AspGlyPheArgValGlnAspIleAspLeuAspGlyHisGlnArgLeuPhe-83
 93-ProValCysArgArgThrGlyPhe-100
 124-GluProAspSerProProArg-130
 150-PheLeuLysAspAspHisArgVal-157
 200-AspPheArgArgPheGlyGln-206
 208-HisIleGlyArgArgGlyIleHis-215
 244-LeuCysArgArgAlaAsnProArgProLysArgSerLeu-256
g050-1

AMPHI Regions - AMPHI

10-IleGlnSerIleCysAspAlaPheGlnPheIleSerTyrTyr-23
 25-ProLysAspTyrIleAspAlaLeuTyrLysAlaTrpGlnLys-38
 94-ValAsnGluGlyVal-98
 163-AsnProSerAspAsnIleValAspTrpValLeuLys-174
 177-ProThrMetGlyAla-181
 235-LeuGluLeuPheGluLysValAsnAla-243
 250-GlyLeuGlyGlyLeuThrThr-256
 275-AlaMetIleProAsn-279
 315-AsnGlyLysArgValAspValAsp-322
 353-LysArgLeuValAsMetLeuAspLys-361
 367-ValAspPheThrAsnArgLeu-373
 379-ProValAspProValGlyAspGlu-386
 396-AlaThrArgMetAspLysPheThrArgGlnMet-406
 452-LysSerSerLysValLeuAlaPhe-459
 490-AlaThrAlaProArgLysTrp-496

Antigenic Index - Jameson-Wolf

4-IleLysGlnGluAspPheIle-10
 23-TyrHisProLysAspTyrIleAspAlaLeu-32
 36-TrpGlnLysGluGluAsnProAlaAlaLysAspAlaMet-48
 55-SerArgMetCysAlaGluAsnAsnArgProIleCysGlnAspThrGly-70
 88-MetSerValGluLysMetValAsnGluGlyValArgArgAlaTyrThrTrpGluGlyAsnThrLeuArgAlaSerVal-113
 116-AspProAlaGlyLysArgGlnAsnThrLysAspAsnThr-128
 138-ProGlyGlyLysValGluVal-144
 148-AlaLysGlyGlyGlySerGluAsnLysSerLysLeu-159
 163-AsnProSerAspAsnIle-168
 192-GlyIleGlyGlyThrProGluLysAlaValLeuMetAlaLysGluSerLeu-208
 213-AspIleGlnGluLeuGlnGluLysAlaAlaSerGlyAlaGluLeuSerThr-229
 284-ArgHisValGluPheGluLeuAspGlySerGlyProValGluLeuThrProProArgValGluAspXxxProAspLeuThrTyrSerProAspAsnGlyLysArgValAspValAspLysLeuThrLysGluGluValAlaSerLysThrGlyAsp-336
 345-LeuThrGlyArgAspAlaAlaHisLysArgLeu-355
 359-LeuAspLysGlyGluGluLeuPro-366
 379-ProValAspProValGlyAspGluValValGlyProAlaGlyProThrThrAlaThrArgMetAspLysPheThrArgGlnMetLeu-407
 416-IleGlyLysSerGluArgGlyAlaAlaThr-425
 428-AlaIleAlaAspAsnLysAla-434

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450-AlaIleLysSerSerLys-455
 470-PheGluValLysAspMetPro-476
 481-ValAspSerLysGlyGluSerIle-488
 492-AlaProArgLysTrpGlnAla-498

Hydrophilic Regions - Hopp-Woods

4-IleLysGlnGluAspPheIle-10
 36-TrpGlnLysGluGluAsnProAlaAlaLysAspAlaMet-48
 57-MetCysAlaGluAsnAsnArgProIleCys-66
 88-MetSerValGluLysMetValAsnGluGlyValArgArg-100

117-ProAlaGlyLysArgGlnAsnThrLysAspAsnThr-128
 140-GlyLysValGluVal-144

148-AlaLysGlyGlyGlySerGluAsnLysSerLysLeu-159
 195-GlyThrProGluLysAlaValLeuMetAlaLysGluSerLeu-208
 213-AspIleGlnGluLeuGlnGluLysAlaAlaSer-223

225-AlaGluLeuSerThr-229

284-ArgHisValGluPheGluLeuAspGly-292

299-ThrProProArgValGluAspXxxProAsp-308
 313-ProAspAsnGlyLysArgValAspValAspLysLeuThrLysGluGluValAlaSer-331

345-LeuThrGlyArgAspAlaAlaHisLysArgLeu-355
 359-LeuAspLysGlyGluGluLeuPro-366
 382-ProValGlyAspGluValVal-388
 397-ThrArgMetAspLysPheThrArgGlnMetLeu-407
 417-GlyLysSerGluArgGlyAlaAlaThr-425
 428-AlaIleAlaAspAsnLysAla-434
 450-AlaIleLysSerSerLys-455
 470-PheGluValLysAspMetPro-476
 481-ValAspSerLysGlyGluSerIle-488
 492-AlaProArgLysTrpGlnAla-498

g052**AMPHI Regions - AMPHI**

12-AlaProCysPheLysGlyCysGluProThrGlyAsp-23
 41-AlaLysAlaSerLysSerAlaThrSerProLysGlyLeuAspGlyValSerLys-58
 67-ThrAlaAlaPheHisSerPheIleSer-75
 84-MetProAsnLeuValThrMetLeu-91

Antigenic Index - Jameson-Wolf

4-ValAlaGluGluThrGluIle-10
 14-CysPheLysGlyCysGluProThrGlyAspSerArgLeuLeuSerThrThrLysSerAlaPro-34
 37-CysAlaAsnSerAlaLysAlaSerLysSerAlaThrSerProLysGlyLeuAspGlyValSerLysAsnSer-61
 75-SerValGlyAspThrArgLeuThrProMet-84
 97-ValValProAsnArgLeuArgLeuGluThrThrTrpSerProAlaCysArgLysValLysAsnAlaAla-119

Hydrophilic Regions - Hopp-Woods

4-ValAlaGluGluThrGluIle-10
 16-LysGlyCysGluProThrGlyAspSerArgLeu-26
 30-ThrLysSerAlaPro-34
 39-AsnSerAlaLysAlaSerLysSerAlaThrSerProLysGlyLeuAspGlyValSerLysAsnSer-60

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77-GlyAspThrArgLeu-81
100-AsnArgLeuArgLeu-104
111-AlaCysArgLysValLysAsnAlaAla-119

g075-2**AMPHI Regions - AMPHI**

15-LysSerAlaAlaLysThrProThrThrIleGlnProAlaSerIleProSer-31
65-AlaProTyrLeuArgGlnValLeu-72
80-PheLysLysCysLeuAla-85
92-PheArgArgProProAsn-97
114-ValAlaAspPhePheGlnThrCysValAsnArgPhePheGluValValGluIleIleGlyIleGly-135

Antigenic Index - Jameson-Wolf

12-GluAsnThrLysSerAlaAlaLysThrProThr-22
25-GlnProAlaSerIlePro-30
52-AlaLysAlaSerGly-56
90-GluPhePheArgArgProProAsnIleArgLysSerValPheGlnLysSerGluTyrAspLys-110

Hydrophilic Regions - Hopp-Woods

12-GluAsnThrLysSerAlaAlaLysThr-20
52-AlaLysAlaSerGly-56
90-GluPhePheArgArgProProAsnIleArgLysSerValPheGlnLysSerGluTyrAspLys-110

g080-2**AMPHI Regions - AMPHI**

6-GluAlaMetGluArgLeuThrArg-13
95-PheProAspThrValGlu-100
108-ProValAlaArgTrpGlyAspHis-115
144-SerAlaGluMetLeuArgArgTyrAspGluPheSerThrValLeu-158
195-LysArgLeuArgLeuPheThrGluAlaTrpGlnHis-206

Antigenic Index - Jameson-Wolf

1-MetTrpAspAsnAlaGluAlaMetGluArgLeuThr-12
33-AsnSerAsnHisLeuPro-38
42-ValSerLeuLysGly-46
50-TyrSerAspLysLysAlaLeu-56
67-AsnIleLeuArgThrAspIleAsnGlyAlaGlnGluAlaTyrArg-81

90-MetValArgArgArgPheProAspThrValGlu-100
103-LeuThrGluArgLysProValAlaArgTrpGly-113
116-AlaLeuValAspGlyGluGlyAsnValPhe-125

127-AlaArgLeuAspArgProGlyMetPro-135
138-ArgGlyAlaGluGlyThrSer-144

146-GluMetLeuArgArgTyrAspGlu-153

163-LeuGlyIleLysGlu-167

180-LeuAspAsnGlyIle-184
187-ArgLeuGlyArgGluAsnGluMetLysArgLeuArgLeu-199
207-LeuLeuArgLysAsnLysAsnArgLeuSer-216
220-MetArgTyrLysAspGlyPheSerVal-228
230-HisAlaProAspGlyLeuProGluLysGluSerGluGlu-242

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Hydrophilic Regions - Hopp-Woods

3-AspAsnAlaGluAlaMetGluArgLeuThr-12
 50-TyrSerAspLysLysAlaLeu-56
 69-LeuArgThrAspIleAsnGlyAlaGlnGluAlaTyrArg-81
 90-MetValArgArgArgPheProAspThrVal-99
 103-LeuThrGluArgLysProValAlaArgTrpGly-113
 116-AlaLeuValAspGlyGluGlyAsnValPhe-125

 127-AlaArgLeuAspArgProGly-133
 138-ArgGlyAlaGluGlyThrSer-144

 146-GluMetLeuArgArgTyrAspGlu-153

 163-LeuGlyIleLysGlu-167
 187-ArgLeuGlyArgGluAsnGluMetLysArgLeuArgLeu-199
 208-LeuArgLysAsnLysAsnArgLeuSer-216
 220-MetArgTyrLysAspGlyPheSer-227
 230-HisAlaProAspGlyLeuProGluLysGluSerGluGlu-242

g081**AMPHI Regions - AMPHI**

22-LysProValSerArgIleValThrAspSerArgAspIleArg-35
 54-ValGlyGlyValLeuSer-59
 78-AlaLeuLysValAspAsp-83

 85-LeuAlaAlaLeuGlnThrLeuAlaLysAlaTrpArgAspAsn-98
 116-LysGluMetLeuAlaAlaValLeuArg-124
 130-AspAlaValSerAla-134

 165-MetAsnHisPheGlyGluLeuAlaValLeuThrGlnIleAlaLys-179
 186-AsnAsnAlaLeuArg-190
 198-AspGlyValGlyAspIleAlaLysAla-206
 303-LeuAsnAspValAlaGluGlyLeuGlnGlyPheSerAsn-315
 345-AlaAlaValAspValLeuAlaArgMetPro-354
 360-ValMetGlyAspMetGlyGluLeuGlyGlu-369
 399-ValGluAlaAlaGlu-403

Antigenic Index - Jameson-Wolf

15-LeuProMetProSerGluAsnLysProValSer-25

 27-IleValThrAspSerArgAspIleArgGluGlyAsp-38
 44-AlaGlyGlyArgPheAspAla-50

 67-ValSerArgGluAspCysAla-73
 79-LeuLysValAspAspThrLeu-85
 94-AlaTrpArgAspAsnValAsnProPhe-102
 102-GlySerGlyGlyLysThrThrValLysGluMetLeu-119
 123-LeuArgArgArgPheGlyAspAspAlaVal-132
 138-AsnPheAsnAsnHisIle-143
 151-LysLeuAsnGluLysHisArg-157
 178-AlaLysProAspAla-182
 194-GlyCysGlyPheAspGlyValGlyAspIleAlaLysAlaLysSerGluIle-210
 223-ProGlnGluAspAlaAsn-228
 245-GlyValAspSerGlyAspValArgAlaGluAsnIleVal-257

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269-CysGlyAspGluArgThrAla-275
 280-ValProGlyArgHisAsnVal-286
 314-SerAsnIleLysGlyArgLeuAsnVal-322
 330-ThrLeuIleAspAspThrTyrAsnAlaAsnProAspSerMetLysAlaAlaVal-347
 363-AspMetGlyGluLeuGlyGluAspGluAlaAla-373
 381-AlaTyrAlaArgAspGlnGlyIle-388
 395-GlyAspAsnSerValGluAlaAlaGluLysPheGlyAla-407
 425-AspLeuProGluArgAlaThrVal-432
 434-ValLysGlySerArg-438
 443-GluGluValValGluAlaLeuGluAspLys-452

Hydrophilic Regions - Hopp-Woods

17-MetProSerGluAsnLysProValSer-25
 27-IleValThrAspSerArgAspIleArgGluGlyAsp-38
 46-GlyArgPheAspAla-50
 67-ValSerArgGluAspCysAla-73
 79-LeuLysValAspAspThrLeu-85
 94-AlaTrpArgAspAsnVal-99
 109-SerGlyGlyLysThrThrValLysGluMetLeu-119
 123-LeuArgArgArgPheGlyAspAspAlaVal-132
 151-LysLeuAsnGluLysHisArg-157
 178-AlaLysProAspAla-182
 199-GlyValGlyAspIleAlaLysAlaLysSerGluIle-210
 223-ProGlnGluAspAlaAsn-228
 247-AspSerGlyAspValArgAlaGluAsnIleVal-257
 269-CysGlyAspGluArgThrAla-275
 316-IleLysGlyArgLeuAsnVal-322
 335-ThrTyrAsnAlaAsnProAspSerMetLysAlaAlaVal-347
 363-AspMetGlyGluLeuGlyGluAspGluAlaAla-373
 381-AlaTyrAlaArgAspGlnGlyIle-388
 397-AsnSerValGluAlaAlaGluLysPheGlyAla-407
 425-AspLeuProGluArgAlaThrVal-432
 443-GluGluValValGluAlaLeuGluAspLys-452

g084-2**AMPHI Regions - AMPHI**

6-ArgIleLysAsnMetAspGlnThrLeuLysAsnThrLeuGly-19
 21-CysAlaLeuLeuAla-25
 48-AlaValGlyAlaLeuAla-53
 65-PheProArgValSer-69
 96-GlnIleValGlySerIleLeuGluSer-104
 111-GluPheValGlyAsnLeuProGly-118

Antigenic Index - Jameson-Wolf

1-MetLysGlnSerAlaArgIleLysAsnMetAspGlnThrLeuLysAsnThr-17
 40-TyrGluTyrGlyTyrArgTyrSer-47
 102-LeuGluSerAsnProAlaGluAlaArgGluPheValGly-114

Hydrophilic Regions - Hopp-Woods

1-MetLysGlnSerAlaArgIleLysAsnMetAspGlnThrLeu-14
 105-AsnProAlaGluAlaArgGluPheVal-113

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AMPHI Regions - AMPHI

41-GluArgValAlaGlnIleGlyLysMetPheAspGlyLeu-53
 60-LeuLysAspAlaLeuAspAsnGlyPheAsp-69
 90-AsnGlyGlyArgValLeuGlyAspIleGluLeuLeuAlaAspIle-104
 125-ThrSerLeuValGlyTyr-130
 141-IleAlaGlyAsnIleGlyThr-147
 174-GluAsnThrGluSerLeu-179
 191-GluAspHisLeuAspArgTyrAspAspLeuLeuAspTyr-203
 213-GlyAspGlyValGln-217
 225-PheCysArgAlaMetLysArgAlaGlyArgGluVal-236
 275-HisAsnAlaAlaAsnValMetAlaAlaValAlaLeuCysGluAla-289
 300-HisValLysThrPheGlnGlyLeuProHisArgValGluLysIleGly-315
 336-AlaAlaIleAlaGlyLeu-341
 353-GlyLysGlyGlnAspPheThr-359
 394-ThrAspCysValThrLeuGluGluAlaValGlnThr-405
 424-SerPheAspMetPheLysGlyTyr-431

Antigenic Index - Jameson-Wolf

4-GlnAsnLysLysIleLeu-9
 23-TyrLeuArgLysAsnGlyAlaGluValAlaAlaTyrAspAlaGluLeuLysAlaGluArgValAlaGln-45
 58-GlyArgLeuLysAspAlaLeuAspAsnGlyPhe-68
 74-SerProGlyIleSerGluArgGlnProAspIleGluAlaPheLysGlnAsnGlyGlyArgValLeuGly-96
 104-IleValAsnArgArgGlyAspLysVal-112
 116-ThrGlySerAsnGlyLysThrThr-123
 150-LeuGluAlaGluLeuGlnArgGluGlyLysLysAlaAsp-162
 169-SerSerPheGlnLeuGluAsnThrGluSerLeuArgProThrAla-183
 189-IleSerGluAspHisLeuAspArgTyrAspAspLeuLeu-201
 204-AlaHisThrLysAlaGluIlePheArgGlyAspGlyVal-216
 220-AsnAlaAspAspValPhe-225
 228-AlaMetLysArgAlaGlyArgGluValLysArgPheSerLeuGluHisGluAla-245
 251-ArgGlyThrGlyCysLeuLysGlnGlyAsnGluAspLeuIleSerThrGlnAspIlePro-270
 291-GlyLeuProArgGluAlaLeu-297
 307-LeuProHisArgValGluLysIleGlyGluLysAsnGly-319
 322-PheIleAspAspSerLysGlyThrAsnVal-331
 351-GlyMetGlyLysGlyGlnAspPheThrProLeuArgAspAlaLeuLysAspLysAlaLys-370
 378-AspAlaProGlnIleArgArgAspLeuAspGlyCysGly-390
 397-ValThrLeuGluGluAlaVal-403
 431-TyrAlaHisArgSer-435

Hydrophilic Regions - Hopp-Woods

4-GlnAsnLysLysIleLeu-9
 25-ArgLysAsnGlyAlaGlu-30
 32-AlaAlaTyrAspAlaGluLeuLysAlaGluArgValAlaGln-45
 59-ArgLeuLysAspAlaLeuAspAsnGlyPhe-68
 77-IleSerGluArgGlnProAspIleGluAlaPheLysGlnAsnGlyGly-92
 104-IleValAsnArgArgGlyAspLysVal-112
 118-SerAsnGlyLysThrThr-123
 150-LeuGluAlaGluLeuGlnArgGluGlyLysLysAlaAsp-162
 174-GluAsnThrGluSerLeuArgPro-181
 189-IleSerGluAspHisLeuAspArgTyrAspAspLeuLeu-201

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204-AlaHisThrLysAlaGluIlePheArgGlyAspGly-215
 228-AlaMetLysArgAlaGlyArgGluValLysArgPheSerLeuGluHisGluAla-245
 251-ArgGlyThrGlyCysLeuLysGlnGlyAsnGluAspLeuIleSer-265
 291-GlyLeuProArgGluAlaLeu-297
 309-HisArgValGluLysIleGlyGluLysAsnGly-319
 324-AspAspSerLysGlyThrAsn-330
 353-GlyLysGlyGlnAsp-357
 359-ThrProLeuArgAspAlaLeuLysAspLysAlaLys-370
 380-ProGlnIleArgArgAspLeuAspGly-388
 397-ValThrLeuGluGluAlaVal-403
 431-TyrAlaHisArgSer-435
g086
AMPHI Regions - AMPHI
 55-MetArgThrTrpArgArgLeuValPro-63
 83-IleAsnGlyAlaThrArg-88
 99-ProThrGluLeuPheLysLeuAlaVal-107
 120-GluValLeuArgSerMetGluSerLeuGlyTrpGlnSerIleTrpArgGlyThrAlaAsn-139
 155-GluMetTyrGlyArgPhe-160
 185-SerPheValValIle-189
 228-ArgValGlnArgValValAlaPheLeuAspProTrpLysAspProGln-243
 293-GlyPhePheGlyMetCys-298
 336-TrpIleGlyIleGlnSerPhe-342

Antigenic Index - Jameson-Wolf

20-LeuAlaSerLysGluGlyGlyAsp-27
 54-ArgMetArgThrTrpArgArg-60
 79-AlaGlyArgGluIleAsnGlyAla-86
 115-PheThrArgArgGluGluValLeuArgSerMetGlu-126
 134-TrpArgGlyThrAla-138
 144-AlaThrAsnProGlnAlaArgArgGluThrLeuGluMet-156
 225-AlaProTyrArgVal-229
 236-LeuAspProTrpLysAspProGlnGlyAla-245
 265-GlyLeuGlyAlaSerLeuSerLysArgGlyPheLeu-276
 313-SerIleGlyLysGlnSerArgAspLeuGly-322
 352-LeuProThrLysGlyLeu-357
 382-IleAspTyrGluAsnArgGlnLysMetArgGlyTyrArgValGlu-396

Hydrophilic Regions - Hopp-Woods

21-AlaSerLysGluGlyGlyAsp-27
 79-AlaGlyArgGluIleAsnGly-85
 115-PheThrArgArgGluGluValLeuArgSerMetGlu-126
 147-ProGlnAlaArgArgGluThrLeuGluMet-156
 238-ProTrpLysAspProGlnGly-244
 270-LeuSerLysArgGlyPheLeu-276
 316-LysGlnSerArgAspLeu-321
 382-IleAspTyrGluAsnArgGlnLysMetArgGlyTyrArgValGlu-396

g087**AMPHI Regions - AMPHI**

80-LysThrValArgGluAlaGlnArgIleIle-89
 99-GlyPheGlyGlyPheValThrPheProGlyGlyLeuAlaLysLeuLeu-115
 129-GlyLeuSerAsnArgHisLeuSerArgTrpAlaLysArgValLeuTyrAlaPheProLys-148
 157-ValGlyAsnProValArg-162
 192-GlyAlaAspValLeuAsnLysThrVal-200
 241-ValGluPheIleThrAspMetValSerAlaTyr-251
 313-GluLysLeuAlaGluIleLeuGly-320

330-TrpAlaGluAsnAla-334

Antigenic Index - Jameson-Wolf

25-AspSerLeuArgValArgGly-31
 37-LeuGlySerLysAspSerMetGluGluArgIleValProGlnTyrGlyIle-53
 61-LysGlyIleArgGlyAsnGlyIleLysArgLysLeu-72
 80-LysThrValArgGluAlaGlnArgIleIleArgLysHisArgVal-94
 130-LeuSerAsnArgHisLeuSerArgTrpAlaLys-140
 150-PheSerHisGluGlyGlyLeu-156
 159-AsnProValArgAlaAspIleSer-166
 171-ProAlaGluArgPheGlnGlyArgGluGlyArgLeu-182
 195-ValLeuAsnLysThrVal-200
 207-LeuProGluGluValArgProGlnMetTyrHisGlnSerGlyArgAsnLysLeuGly-225
 229-AlaAspTyrAspAla-233
 235-GlyValLysAlaGluCys-240
 249-SerAlaTyrArgAspAlaAsp-255
 284-AlaValAspAspHisGlnThrAla-291
 309-GlnLeuThrAlaGluLysLeuAlaGlu-317
 321-SerLeuAsnArgGluLysCysLeuLys-329
 332-GluAsnAlaArgThr-336
 341-HisSerAlaAspAspValAlaGlu-348

Hydrophilic Regions - Hopp-Woods

25-AspSerLeuArgValArgGly-31
 39-SerLysAspSerMetGluGluArgIleVal-48
 66-AsnGlyIleLysArgLysLeu-72
 81-ThrValArgGluAlaGlnArgIleIleArgLysHisArgVal-94
 134-HisLeuSerArgTrpAlaLys-140
 161-ValArgAlaAspIle-165
 171-ProAlaGluArgPheGlnGlyArgGluGlyArgLeu-182
 207-LeuProGluGluValArgPro-213
 219-SerGlyArgAsnLysLeu-224
 235-GlyValLysAlaGluCys-240
 249-SerAlaTyrArgAspAlaAsp-255
 284-AlaValAspAspHisGlnThrAla-291
 310-LeuThrAlaGluLysLeuAlaGlu-317
 322-LeuAsnArgGluLysCysLeuLys-329
 341-HisSerAlaAspAspValAlaGlu-348

g088-2

AMPHI Regions - AMPHI

7-HisPheSerAsnTrpLeuThrGlyLeuAsnIlePheGlnTyrThrThr-22
 24-ArgAlaValMetAlaAlaLeu-30
 43-ThrIleArgArgLeuThrAlaLeuLysCysGlyGln-54
 88-LeuTrpGlyAsnTrpAlaAsn-94
 111-GlyPheTyrAspAspTrpArgLysValValTyr-121
 140-AlaValIleAlaGlyLeuAlaLeu-147
 175-GlyPheLeuValLeuSerTyrLeuThrIle-184
 187-ThrSerAsnAlaValAsnLeuThrAspGlyLeuAspGlyLeuAlaAla-202
 221-HisTyrGlnPheSerGlnTyrLeuGlnLeuProTyr-232
 244-ThrAlaMetCysGlyAlaCysLeuGlyPhe-253

Antigenic Index - Jameson-Wolf

48-ThrAlaLeuLysCysGlyGlnAlaValArgThrAspGlyProGln-62
 66-ValLysAsnGlyThrProThrMet-73
 114-AspAspTrpArgLysValValTyrLysAspProAsnGlyValSerAlaLysPhe-131

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193-LeuThrAspGlyLeuAsp-198
 312-LysLysThrLysLysArgIle-318
 328-TyrGluGlnLysGlyTrpLysGluThrGlnVal-338

Hydrophilic Regions - Hopp-Woods

56-ValArgThrAspGlyProGln-62
 114-AspAspTrpArgLysValValTyrLysAspProAsnGlyVal-127
 312-LysLysThrLysLysArgIle-318
 331-LysGlyTrpLysGlu-335

g089

AMPHI Regions - AMPHI

40-PheSerThrArgCysGlyLysProTrpLysValLeu-51
 74-LeuAlaAlaLeuCysLysProCysSerGlyMetSerCys-86
 119-ArgProAlaArgPhe-123

Antigenic Index - Jameson-Wolf

1-MetProProLysIleThrLysSerGlyPhe-10
 40-PheSerThrArgCysGlyLysProTrpLys-49
 53-CysSerSerAsnAlaSerArgGlyLysProThrAlaSerHisLysAla-68
 77-LeuCysLysProCysSerGlyMetSer-85
 87-ValGluIleLysSerSerLeuProCysPheLysGlnProValProArgSerAsnGlnLysSerAlaSerCysSerLysGluAsnArgPheThrSerArgProAlaArgPheMetAlaArgGlnAsnThrSerSerAlaPheLysThrCysThrProSerProArgLysIleSer-144

Hydrophilic Regions - Hopp-Woods

43-ArgCysGlyLysPro-47
 56-AsnAlaSerArgGlyLysProThrAlaSerHisLysAla-68
 87-ValGluIleLysSer-91
 99-ProValProArgSerAsnGlnLysSerAlaSerCysSerLysGluAsnArgPheThrSerArgProAlaArgPheMetAla-125
 137-ThrProSerProArgLysIleSer-144

g090-1

AMPHI Regions - AMPHI

10-SerGlnSerLeuLysArgPheAspLysHisPheArg-21
 51-ArgLeuAsnArgLeuPhe-56
 59-AspAlaValGlyGlnVal-64
 129-PheAlaValValAspGlu-134
 141-AlaAspPhePheHisThrValArgGlnAla-150
 152-GluGlyPheAspValPheGlnGlnCysPheAla-162
 164-GlnThrAspGlyLeuAlaGln-170
 177-ValGlyGlyValValGlnThrLeuGlnArg-186
 233-ValValArgIleGlnAsnLeuHisSerIle-242
 253-ValValGluGlnIle-257
 388-GluThrValValGlnArgIlePheGlnThrThr-398
 404-ProValLysHisLeuThrAspLeuArg-412
 425-AsnLeuArgAlaValPheAlaGlnIleGlyAsnHisGlyAsnThrArgAlaAlaLysSer-444

Antigenic Index - Jameson-Wolf

8-ThrAlaSerGlnSerLeuLysArgPheAspLysHisPheArg-21
 29-HisIleGluThrArgAlaGlyGlyAlaGluGlnAspAsnIleAla-43
 51-ArgLeuAsnArgLeuPheGlnSerAspAlaVal-61
 73-AlaAspLeuArgArgIleAspAlaAspGlnGluHis-84
 94-AlaGlnGlyArgGluVal-99
 107-GlnAsnHisGluGluArgValLeuGlnThrGlyAsnArgGlyGlyArgAlaAspIleArg-127
 149-GlnAlaLeuGluGlyPhe-154

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161-PheAlaArgGlnThrAspGlyLeuAlaGlnSerHisGlySerHisAsnValGlyGly-179
 183-ThrLeuGlnArgAspValLeuArgArgAsnGln-193
 201-ThrAlaArgProAlaPheGlnPro-208
 214-PheGlnGlyLysProPheHisPheThrProCysPro-225
 268-ValHisHisArgArgArgSerArgAlaGln-277
 285-GluAlaGlyLysLeuGln-290
 305-LeuGlnAsnArgArgThrAspIleAlaArgAsnAspGlyIleGlnPro-320
 322-LeuAspAlaGluIleAlaAspGlnAlaArgTyrArgGly-334
 339-AlaGlyAsnArgAsnHis-344
 353-ValArgGlnGlnPhe-357
 369-GluArgLeuAspIle-373
 379-AspAlaGlyThrGluArgGlnAsnIle-387
 396-GlnThrThrArgValLysHisGlnProVal-405
 407-HisLeuThrAspLeuArgHis-413
 422-IleSerGlyAsnLeu-426
 435-AsnHisGlyAsnThrArgAlaAlaLysSerGlyAspGluAspPhePhe-450

Hydrophilic Regions - Hopp-Woods

9-AlaSerGlnSerLeuLysArgPheAspLysHisPheArg-21
 29-HisIleGluThrArgAlaGlyGlyAlaGluGlnAspAsnIleAla-43
 73-AlaAspLeuArgArgIleAspAlaAspGlnGluHis-84
 94-AlaGlnGlyArgGluVal-99
 107-GlnAsnHisGluGluArgValLeu-114
 117-GlyAsnArgGlyGlyGlyArgAlaAspIleArg-127
 163-ArgGlnThrAspGlyLeuAla-169
 184-LeuGlnArgAspValLeuArgArgAsnGln-193
 269-HisHisArgArgArgSerArgAla-276
 285-GluAlaGlyLysLeuGln-290
 306-GlnAsnArgArgThrAspIleAlaArgAsnAspGlyIle-318
 322-LeuAspAlaGluIleAlaAspGlnAlaArgTyrArg-333
 369-GluArgLeuAspIle-373
 380-AlaGlyThrGluArgGlnAsnIle-387
 398-ThrArgValLysHisGlnPro-404
 409-ThrAspLeuArgHis-413
 437-GlyAsnThrArgAlaAlaLysSerGlyAspGluAspPhePhe-450
g091

AMPHI Regions - AMPHI

38-LysProLeuSerAspGlyIleAlaSerArgLeuIleThrArgLeu-52
 61-ValLeuValSerValLeuThrSerLeuAlaLys-71

Antigenic Index - Jameson-Wolf

5-ValProProSerProAlaThr-11
 28-IleLeuGlyArgArgArgProProLeuProLysProLeuSerAspGlyIleAla-45
 73-LeuLeuSerGluArgLysValLeu-80

Hydrophilic Regions - Hopp-Woods

28-IleLeuGlyArgArgArgProProLeu-36
 73-LeuLeuSerGluArgLysValLeu-80
g092

AMPHI Regions - AMPHI

55-GlyMetSerGlyIleAlaGluValLeuHis-64
 76-AlaArgAsnAlaAlaThrGluHisLeu-84
 95-HisThrAlaGluHisValAsnGly-102
 122-AlaLeuGluArgGln-126
 137-AlaGluLeuMetArgPheArgAsp-144

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209-LeuThrProIleMetSerValValThrAsnIleAsp-220
 226-ThrTyrGlyHisSerValGluLysLeuHisGlnAlaPheIleAspPheIleHisArg-244
 260-ValArgAlaIleLeuProLysValSerLysProTyr-271
 273-ThrTyrGlyLeuAspAspThrAla-280
 321-AsnValLeuAsnAlaLeuAlaAlaIle-329
 339-ValGluAlaIleGlnLysGly-345
 353-GlyArgArgPheGlnLysTyrGlyAspIleLys-363
 407-ArgTyrThrArgThrArgAspLeuPheGluAspPheThrLysValLeuAsnThrValAspAlaLeu-428
 449-LeuAlaArgAlaIleArgValLeuGlyLysLeu-459
 464-CysGluAsnValAlaAspLeuProGlnMetLeuMetAsn-476

Antigenic Index - Jameson-Wolf

17-AlaAsnGlyGlnThrPhe-22
 25-ThrProLeuArgThrLysAsnGlnProGluArgAsnIleMetMetLysAsnArgVal-43
 70-ValSerGlySerAspGlnAlaArgAsnAlaAla-80
 111-AlaValLysLysGluAsnProGluVal-119
 121-AlaAlaLeuGluArgGlnIle-127
 140-MetArgPheArgAspGlyIle-146
 150-GlyThrHisGlyLysThrThrThr-157
 184-GlyThrAsnAlaArgLeuGlyLysGlyGluTyr-194
 198-GluAlaAspGluSerAspAla-204
 218-AsnIleAspGluAspHisMetAspThrTyrGly-228
 230-SerValGluLysLeuHis-235
 255-ValAspSerGluHisVal-260
 263-IleLeuProLysValSerLysProTyrAla-272
 275-GlyLeuAspAspThrAlaAsp-281
 286-AspIleGluAsnValGlyAla-292
 302-MetLysGlyHisGluGlnGlySerPhe-310
 351-GlyValGlyArgArgPheGlnLysTyrGlyAspIleLysLeuProAsnGlyGly-368
 374-AspAspTyrGlyHisHisPro-380
 393-AlaTyrProGluLysArgLeu-399
 404-GlnProHisArgTyrThrArgThrArgAspLeuPheGluAspPheThrLys-420
 435-AlaAlaGlyGluGluProValAlaAlaAlaAspSerArgAlaLeuAlaArg-451
 478-LeuGlnAspGlyAspVal-483
 488-GlyAlaGlySerIleAsnArgValProSerAla-498

Hydrophilic Regions - Hopp-Woods

26-ProLeuArgThrLysAsnGlnProGluArgAsnIleMetMetLysAsnArgVal-43
 71-SerGlySerAspGlnAlaArgAsnAlaAla-80
 111-AlaValLysLysGluAsnProGlu-118
 121-AlaAlaLeuGluArgGlnIle-127
 140-MetArgPheArgAsp-144
 152-HisGlyLysThrThr-156
 187-AlaArgLeuGlyLysGlyGlu-193
 198-GluAlaAspGluSerAspAla-204
 218-AsnIleAspGluAspHisMetAsp-225
 230-SerValGluLysLeuHis-235
 256-AspSerGluHisVal-260
 275-GlyLeuAspAspThrAlaAsp-281
 303-LysGlyHisGluGlnGlySer-309
 351-GlyValGlyArgArgPheGlnLys-358
 360-GlyAspIleLysLeu-364
 393-AlaTyrProGluLysArgLeu-399
 407-ArgTyrThrArgThrArgAspLeuPheGluAspPheThrLys-420
 435-AlaAlaGlyGluGluProValAlaAlaAlaAspSerArgAlaLeuAlaArg-451

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479-GlnAspGlyAspVal-483

g093-2**AMPHI Regions - AMPHI**

26-ThrAlaIleLeuAsn-30

59-ThrAlaPheAsnIleLeuHisGly-66

156-GlyArgLeuLysSerValTyrGluGluLeuLysHisLeu-168

196-IleHisIleIleProAlaThrGluPhe-204

254-PheLeuLysAspThr-258

267-IleAsnThrLeuProGlyMetThrGly-275

Antigenic Index - Jameson-Wolf

12-GlyGlyPheSerSerGluArgGluIleSerLeuAspSerGlyThr-26

32-LeuLysSerLysGlyIleAsp-38

41-AlaPheAspProLysGluThrProLeuSerGluLeuLysGluArgGlyPhe-57

66-GlyThrTyrGlyGluAspGlyAlaVal-74

96-GlyMetAspLysTyrArgCys-102

121-AspAspThrAspPheAspAlaValGluGluLysLeuGly-133

140-ProAlaAlaGluGlySerSer-146

151-LysValLysGluLysGlyArgLeuLysSerValTyrGluGluLeuLysHisLeuGln-169

176-ArgPheIleGlyGlyGlyGluTyrSer-184

189-AsnGlyLysGlyLeuPro-194

203-GluPheTyrAspTyrGluAlaLysTyrAsnArgAspAspThrIleTyrGlnCysProSerGluAspLeuThr

GluAlaGluGluSerLeuMetArg-234

245-GlyAlaGluGlyCysVal-250

253-AspPheLeuLysAspThrAspGly-260

269-ThrLeuProGlyMetThr-274

279-ValProLysSerAlaAla-284

Hydrophilic Regions - Hopp-Woods

15-SerSerGluArgGluIleSerLeu-22

32-LeuLysSerLysGlyIleAsp-38

41-AlaPheAspProLysGluThrProLeuSerGluLeuLysGluArgGlyPhe-57

68-TyrGlyGluAspGlyAlaVal-74

96-GlyMetAspLysTyrArgCys-102

121-AspAspThrAspPheAspAlaValGluGluLysLeuGly-133

140-ProAlaAlaGluGlySerSer-146

151-LysValLysGluLysGlyArgLeuLysSerValTyrGluGluLeuLysHisLeuGln-169

205-TyrAspTyrGluAlaLysTyrAsnArgAspAspThrIle-217

221-ProSerGluAspLeuThrGluAlaGluGluSerLeuMetArg-234

253-AspPheLeuLysAspThrAspGly-260

g094**AMPHI Regions - AMPHI**

17-LeuProProIleThrLysValGlySer-25

64-ArgGlyIleThrGlyIleCysArg-71

80-PheSerPheLeuThrAlaVal-86

Antigenic Index - Jameson-Wolf

4-ProLeuProLysArgAlaLeu-10

24-GlySerSerProAlaAlaProArgMetGluAla-34

50-MetProSerArgLysArgIleSer-57

60-SerIleLysAlaArgGly-65

70-CysArgSerAsnAlaAlaThrThrSer-78

Hydrophilic Regions - Hopp-Woods

-700-

5-LeuProLysArgAlaLeu-10
 28-AlaAlaProArgMetGluAla-34
 51-ProSerArgLysArgIleSer-57
 60-SerIleLysAlaArgGly-65
g095-2
AMPHI Regions - AMPHI
 7-GlyGlyCysIleSerAsnLeuPheArgGlnPheGlnGlnArgGlyGlyAsnAlaValAsp-26
 38-IleLeuXxxAsnIleHisGlnHisLeuArgGlnValGlyAspValPheAlaVal-55
 63-TyrAlaAspSerThr-67
 86-PheGlyGlnTyrGlnArgIleAsnGlyIleGluTyrPheGlyLysValPheLysGlnIleAlaArg-107
 131-LysGlyCysArgHisPheAspGlyValValSer-141
 174-PheLeuAspArgPheAsnArgCysAlaAspPheGlnArgHisAlaAspGlyCysGlnCysValGlnHisVal-197
 204-GlnHisAspPheLys-208
 236-AspValGlyGlyIleValGlnThrValSerSerIle-247
 274-ThrValAspGluIleAspLysArgLeuMetGlnPhePheAspAlaVal-289
 370-AsnGlyAspAlaValThrGluAlaHis-378
 417-ValAsnValPheCysGly-422
 435-MetLeuGlySerGlyIleSerArgLeuIleArgThrGly-447
 451-AlaGlnIleValGlnAspPheGlyAspThrAlaHisAla-463

Antigenic Index - Jameson-Wolf

17-PheGlnGlnArgGlyGlyAsnAlaValAspAlaSerArgThrHisIle-32
 62-GlnTyrAlaAspSerThrArgGlnGlyAlaGlyValGlyGlyGlyAsnArg-78
 112-ValArgLeuGluGlyGluHisGlnThr-120
 126-AlaAlaCysSerGlyLysGlyCysArgHisPheAspGly-138
 163-AlaAlaAlaAspAlaPheLysAlaGluGlnAlaPhe-174
 176-AspArgPheAsnArgCysAlaAspPheGlnArgHisAlaAspGlyCysGln-192
 205-HisAspPheLysArg-209
 253-GlyGlnAsnArgAlaAspVal-259
 263-AsnThrGlnLysGlyPheAlaVal-270
 273-HisThrValAspGluIleAspLysArgLeu-282
 299-AspIleGlyAsnAspGlyHisAsnArgGlyGlnMetXxxGluArgGlyIle-315
 339-PheAlaAlaAspAsnGluSerGlyValGluSerCysArgAlaGluAspGlyGlyGlyGlnAlaGlyGlyArg-362
 364-PheAlaValArgThrGlyAsnGlyAspAlaValThr-375
 384-GlnGlyAlaArgAsnAsnGlyAsnLeuProLeuGlnArgSerAspAsnPheGly-401
 405-LeuAspGlyGlyArgGlyAsnAspIleArgThr-416
 442-ArgLeuIleArgThrGlyAsnPheLys-450
 455-GlnAspPheGlyAspThrAlaHisAlaAspAlaAlaAspThrAspLysMetAspVal-473

Hydrophilic Regions - Hopp-Woods

17-PheGlnGlnArgGlyGlyAsnAlaValAspAlaSerArgThrHisIle-32
 65-AspSerThrArgGlnGlyAla-71
 112-ValArgLeuGluGlyGluHis-118
 128-CysSerGlyLysGlyCysArgHisPheAsp-137
 163-AlaAlaAlaAspAlaPheLysAlaGluGlnAlaPhe-174
 182-AlaAspPheGlnArgHisAlaAspGly-190
 205-HisAspPheLysArg-209
 273-HisThrValAspGluIleAspLysArgLeu-282
 300-IleGlyAsnAspGlyHisAsnArgGlyGlnMetXxxGluArgGlyIle-315
 339-PheAlaAlaAspAsnGluSerGlyValGluSerCysArgAlaGluAspGlyGlyGly-357
 368-ThrGlyAsnGlyAspAlaValThr-375
 384-GlnGlyAlaArgAsnAsnGly-390
 394-LeuGlnArgSerAspAsn-399

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407-GlyGlyArgGlyAsnAspAspIleArgThr-416
 461-AlaHisAlaAspAlaAlaAspThrAspLysMetAspVal-473
g096-2
AMPHI Regions - AMPHI
 19-GlyIlePheGluGluIleAspAlaHis-27
 59-IleAsnGlyValValSerVal-65
 112-GlnPhePheValAsnAlaPheGlnThrAlaPhePhePheAsp-125
 161-GluLeuGlyAsnGlyXxx-166
 172-AsnGlnPheAlaAla-176
 188-ThrAlaAlaGlyIleGlyAsnAlaGln-196
 228-XxxArgArgPheLeu-232

Antigenic Index - Jameson-Wolf

4-HisThrGlyGlnGly-8
 22-GluGluIleAspAla-26

 30-PheArgThrAspCys-34
 74-LeuGlyCysGlyAspAspValTyrAla-82
 88-ValGlnAspGlyAla-92
 97-AlaAlaAspLysThrPheGlyAsn-104

 133-AlaPheGlyArgArgLeuHisLysHisArgGlnThr-144
 161-GluLeuGlyAsnGlyXxxSerGlnCysLeu-170
 181-AlaAspGlyGlyGlyGlyAspThr-188
 211-ThrValLysAspValGluCysArgLeuLysAla-221

Hydrophilic Regions - Hopp-Woods

22-GluGluIleAspAla-26

 75-GlyCysGlyAspAspValTyr-81
 97-AlaAlaAspLysThrPheGly-103
 133-AlaPheGlyArgArgLeuHisLysHisArgGln-143
 182-AspGlyGlyGlyGlyAspThr-188
 211-ThrValLysAspValGluCysArgLeuLysAla-221
g097

AMPHI Regions - AMPHI

28-AlaGlyLeuThrThrPheLeuThrMetCysTyrIleVal-40
 166-AlaThrLeuValGlyLeuGlyAspIleHisGlnProSerAlaLeuLeuAlaLeuPheGlyPheValMetVal
 ValValLeu-192
 207-ThrIleThrValIleAlaSerLeuMetGlyLeuAsnGluPheHisGlyValValGlyGluValProGlyIle
 -230
 242-LeuPheThrValSer-246
 260-PheAspSerThrGlyThr-265
 362-MetLeuArgSerAlaArgAspIle-369

Antigenic Index - Jameson-Wolf

1-MetAspIleSerLysGlnThrLeuLeu-9
 16-LysAlaAsnGlyThrThrValArgThrGluLeu-26
 125-LysValArgGluMetLeu-130
 260-PheAspSerThrGly-264
 277-ValAspGlyLysLeuProArgLeuLysArg-286
 317-SerAlaGlyGlyArgThrGly-323
 364-ArgSerAlaArgAspIleAspTrpAspAspMetThrGlu-376

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410-LeuCysArgArgThrGlyAspValPro-418

Hydrophilic Regions - Hopp-Woods

1-MetAspIleSerLys-5

17-AlaAsnGlyThrThrValArgThrGluLeu-26

125-LysValArgGluMetLeu-130

279-GlyLysLeuProArgLeuLysArg-286

318-AlaGlyGlyArgThr-322

364-ArgSerAlaArgAspIleAspTrpAspAspMetThrGlu-376

410-LeuCysArgArgThrGlyAsp-416

g098**AMPHI Regions - AMPHI**

33-AspGlnPheValGlyAspValAlaArg-41

62-ThrHisHisValHisArgMetGly-69

Antigenic Index - Jameson-Wolf

25-GlnGlnAspAlaAlaGlnAlaGlyAspGlnPheVal-36

53-AsnAlaAlaGluHisGlyHisAlaGly-61

67-ArgMetGlyMetCysArg-72

79-AsnHisThrAspArgGlnAla-85

Hydrophilic Regions - Hopp-Woods

26-GlnAspAlaAlaGlnAla-31

54-AlaAlaGluHisGlyHis-59

79-AsnHisThrAspArgGlnAla-85

g099**AMPHI Regions - AMPHI**

6-SerMetMetArgLeuProAspIleVal-14

47-AlaPheValGluPhePheGlyGluGly-55

102-LysLeuValGluThrTyrAlaLysThr-110

114-TrpAlaGlyGlyLeuLys-119

135-ThrArgAsnMetAlaGlyProSerAsn-143

154-AlaAlaLysGlyLeuAlaLysProTyrGluGluProSerAspGlyGln-169

178-AlaAlaIleThrSerCysThrAsnThrSerAsnProArgAsnVal-192

251-ThrCysAsnGlyMetSer-256

341-IleAspAlaIleValAlaGluTyr-348

350-LysProGlnGlnPheArgAspIle-357

371-ProSerProLeuTyrAspTrpArg-378

381-SerThrTyrIleArg-385

398-ArgThrLeuArgGlyMetArgProPro-406

443-AspPheAsnSerTyrAlaThr-449

468-PheAsnGluMetValArg-473

494-MetArgMetTrpGluAlaIleGluThrTyrMet-504

532-ArgLeuAlaGlyValGluAlaIle-539

541-AlaGluGlyPheGluArgIleHisArgThrAsn-551

575-GlyThrGluThrTyr-579

Antigenic Index - Jameson-Wolf

18-LeuThrGlyLysArgGlnAla-24

38-PheLeuArgLysGluArgValVal-45

53-GlyGluGlyAlaArgSer-58

60-SerIleGlyAspArgAlaThr-66

70-MetThrProGluPhe-74

94-ThrGlyArgAspAspAlaGlnValLysLeu-103

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133-SerValThrArgAsnMetAlaGlyProSerAsnProHis-145
157-GlyLeuAlaLysProTyrGluGluProSerAspGlyGlnMetProAspGly-173
183-CysThrAsnThrSerAsnProArgAsnVal-192
201-AsnAlaAsnArgLeuGlyLeuLysArgLysProTrpVal-213
216-SerPheAlaProGlySerLysValAla-224
235-ProGluMetGluLysLeu-240
251-ThrCysAsnGlyMetSerGlyAlaLeuAspProLysIleGlnGlnGluIleIleAspArgAspLeuTyr-273
279-SerGlyAsnArgAsnPheAspGlyArgIleHisProTyrAlaLys-293
322-IleArgPheAspIleGluAsnAspVal-320
322-GlyValAlaAspGlyArgGluIleArgLeuLysAspIleTrpProThrAspGluGluIleAsp-342
348-TyrValLysProGlnGlnPheArgAsp-356
361-MetSerAspThrGlyThrAlaGlnLysAlaProSerProLeuTyrAspTrpArgProMetSerThrTyrIleArgArgProProTyrTrp-390
394-LeuAlaGlyGluArgThrLeuArgGlyMetArgProProAlaIleLeuProAspAsnIleThrThrAspHisIleSerProSerAsn-422
438-GlyLeuProGluGluAspPheAsnSerTyrAlaThrHisArgGlyAspHisLeuThr-456
463-AlaAsnProLysLeuPhe-468
471-MetValArgAsnGluAspGlySerValArgGlnGlySerLeuAlaArgValGluProGluGlyGlnThr-493
503-TyrMetAsnArgLysGlnPro-509
516-AlaAspTyrGlyGlnGlySerSerArgAspTrpAlaAlaLysGlyValArg-532
542-GluGlyPheGluArgIleHisArgThrAsnLeu-552
562-PheLysProGlyThrAsnArgHisThrLeuGlnLeuAspGlyThrGluThrTyrAspValValGlyGluArgThrProArgCysGly-590
595-IleHisArgLysAsnGlyGluThrValGlu-604
607-ValThrCysArgProAspThrAlaGluGlu-616

Hydrophilic Regions - Hopp-Woods

18-LeuThrGlyLysArgGlnAla-24
38-PheLeuArgLysGluArgValVal-45
53-GlyGluGlyAlaArg-57
60-SerIleGlyAspArgAlaThr-66
94-ThrGlyArgAspAspAlaGlnValLysLeu-103
157-GlyLeuAlaLysProTyrGluGluProSerAspGlyGlnMetPro-171
205-LeuGlyLeuLysArgLysProTrpVal-213
235-ProGluMetGluLysLeu-240
259-LeuAspProLysIleGlnGlnGluIleIleAspArgAspLeuTyr-273
282-ArgAsnPheAspGlyArgIle-288
312-IleArgPheAspIleGluAsnAspVal-320
324-AlaAspGlyArgGluIleArgLeuLysAsp-333
335-TrpProThrAspGluGluIleAsp-342
363-AspThrGlyThrAlaGlnLysAlaPro-371
394-LeuAlaGlyGluArgThrLeuArgGlyMetArg-404
438-GlyLeuProGluGluAspPheAsn-445
450-HisArgGlyAspHis-454
471-MetValArgAsnGluAspGlySerValArgGln-481
485-AlaArgValGluProGluGlyGlnThr-493
503-TyrMetAsnArgLysGlnPro-509
518-TyrGlyGlnGlySerSerArgAspTrpAlaAlaLysGlyValArg-532
542-GluGlyPheGluArgIleHisArg-549
564-ProGlyThrAsnArgHis-569
574-AspGlyThrGluThr-578
580-AspValValGlyGluArgThrProArg-588
596-HisArgLysAsnGlyGluThrValGlu-604

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609-CysArgProAspThrAlaGluGlu-616

g102**AMPHI Regions - AMPHI**

26-ProAsnProThrAlaAsnLeuGlyAspGlyLeu-36

70-PheAspThrMetValLysAspLeuLeuGlyArgGlyTrpAsnIleIleAsnGlyIleAla-89

109-ThrAlaLysGlyIleGlySerAlaVal-117

128-LeuValPhePheGlyIleLeuAlaPheCys-137

144-LeuValAspArgPheThrGlyValLeu-152

155-GlyMetValLeuThr-159

207-AsnValSerSerLeuLeuLysTyrPheLys-216

221-LysValAlaLysSerIle-226

266-LeuAsnGluThrLeuSerLysPheAlaGlnThrGlyAspMetAspLysIleLeuSerLeuPheProTyr-288

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300-LeuGlyLeuPheAspAsnIleAlaAspIlePheLysTrpAsnAsp-314

316-MetSerGlyArgGly-320

342-PhePheThrAlaIleGlyAla-348

374-GlyAlaGlyLysThrTyrLysVal-381

Antigenic Index - Jameson-Wolf

1-MetSerAlaLysThrProSerLeu-8

26-ProAsnProThrAlaAsnLeuGlyAspGlyLeu-36

62-ThrHisAsnProArgGlyAlaSer-69

77-LeuLeuGlyArgGly-81

106-GlyAspLeuThrAla-110

169-AlaAspAlaLysPro-173

179-ThrGlnAlaProValGlyThr-185

214-TyrPheLysGlyAspAlaProLysValAla-223

246-SerAsnLeuProArgAsnGluPhe-253

258-AlaAlaGluArgGlnLeu-263

274-AlaGlnThrGlyAspMetAspLys-281

311-LysTrpAsnAspSerMetSerGlyArgGlyThrLys-322

369-SerProGlnLysIleGlyAlaGlyLysThrTyr-379

Hydrophilic Regions - Hopp-Woods

1-MetSerAlaLysThr-5

62-ThrHisAsnProArgGlyAlaSer-69

169-AlaAspAlaLysPro-173

215-PheLysGlyAspAlaProLysValAla-223

247-AsnLeuProArgAsnGluPhe-253

258-AlaAlaGluArgGlnLeu-263

277-GlyAspMetAspLys-281

316-MetSerGlyArgGlyThrLys-322

371-GlnLysIleGlyAla-375

g105**AMPHI Regions - AMPHI**

11-TrpValGlyLeuGly-15

22-ValThrArgLeuLeuAsp-27

51-LysValTyrGlySerThrAlaGluLeuValArgAlaCys-63

74-AlaAlaValCysAspIleLeuAsnGlyValArgAspGlyLeu-87

97-ThrIleSerProThr-101

110-ValGluAlaAlaGlyGlyGlnPheAlaGluAlaProVal-122

143-AlaValLeuAsnProLeuGlnLysIlePheSer-153

162-PheGlyAspValGlyLysGlySer-169

176-AsnSerLeuLeuGlyIlePheGlyGluAlaTyr-186

203-IleValGluAlaIleGlySerAla-211

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249-LeuGluGlnAlaGlyAsnThrLeuProAlaValGlu-260

263-AlaAlaSerTyrArgLysAlaValGluAla-272

Antigenic Index - Jameson-Wolf

25-LeuLeuAspGlyGlyIleGlu-31

34-ValTyrAsnArgSerProAspLysThrAlaProIleSerAlaLysGlyAlaLysValTyrGlySer-55

81-AsnGlyValArgAspGlyLeuAla-88

96-SerThrIleSerProThrGluAsnLeuAla-105

121-ProValSerGlySerValGlyProAlaThr-130

139-GlyGlySerGluAla-143

155-ValGlyLysLysThrPheHisPheGlyAspValGlyLysGlySerGly-170

196-PheGlyIleAspThrAspThrIleVal-204

210-SerAlaMetAspSerProMetPheGlnThrLysLysSerLeuTrpAlaAsnArgGluPheProPro-231

237-HisAlaSerLysAspLeuAsnLeuAlaValLysGluLeuGlnAlaGlyAsnThrLeuPro-257

264-AlaSerTyrArgLysAlaValGluAlaGlyTyrGlyGluGlnAspValSerGly-281

Hydrophilic Regions - Hopp-Woods

25-LeuLeuAspGlyGlyIle-30

37-ArgSerProAspLysThrAlaProIleSerAlaLysGlyAlaLys-51

81-AsnGlyValArgAspGlyLeuAla-88

164-AspValGlyLysGlySerGly-170

196-PheGlyIleAspThrAspThrIle-203

218-GlnThrLysLysSerLeuTrpAla-225

237-HisAlaSerLysAspLeuAsnLeuAlaValLysGluLeuGlnAlaGly-253

265-SerTyrArgLysAlaValGlu-271

273-GlyTyrGlyGluGlnAspVal-279

g109-2**AMPHI Regions** - AMPHI

6-GlyThrTyrArgAspLeuHisArgProAlaSerGlu-17

53-LeuIleProAlaMetAlaGlyThrIleGly-62

143-GlyLeuLeuMetAla-147

154-IleMetAlaLysLeuThrSer-160

175-GlyThrThrGlyGlnValLysLysLeuPheSerTrpAlaGly-188

205-ValMetTyrAlaLeuLeuGluHisTrpLysLysArgTrpLeu-218

220-ValProLeuGlyCys-224

292-HisGlnValPheGlnLysIle-298

324-ValGlySerIleLeuGly-329

334-TrpSerSerTrpGlyThr-339

465-AlaValGlyMetLeuProGlyIleProProPheLeuGluGlnPheLysSerLeu-482

Antigenic Index - Jameson-Wolf

1-MetGluLysHisAsnGlyThrTyrArgAspLeuHisArgProAlaSer-16

18-PheAlaThrArgAspGluTyrLeuGlu-26

32-MetGlnProLysArgTrpArgProAsnLeuProPheArgAspTyrArgPheGluTrp-50

76-LeuGlyLeuProAsp-80

107-ProGlyAlaAsnLeuProGlyThrHis-115

158-LeuThrSerAsnGlyVal-163

177-ThrGlyGlnValLysLys-182

243-AlaProGlyLeuProPro-248

254-TrpXxxGlyGluAsnSerGlyTrpHis-262

299-SerTyrProGluLysThrAspLysVal-307

310-AsnIleAspAspThrMetThr-316

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350-ProIleProGlyGly-354
 392-AlaGlyMetGluMetThrArgLysGlyLysThrThrGln-404
 435-GlyCysLysGluArgSerAla-441

Hydrophilic Regions - Hopp-Woods

1-MetGluLysHisAsnGlyThrTyrArgAspLeuHisArgProAlaSer-16
 18-PheAlaThrArgAspGluTyrLeuGlu-26
 35-LysArgTrpArgPro-39
 44-ArgAspTyrArgPheGluTrp-50
 178-GlyGlnValLysLys-182
 299-SerTyrProGluLysThrAspLysVal-307
 311-IleAspAspThrMetThr-316
 392-AlaGlyMetGluMetThrArgLysGlyLysThrThrGln-404
 435-GlyCysLysGluArgSerAla-441
 g111-2

AMPHI Regions - AMPHI

6-ArgLeuProAsnLeuIleArgAlaLeu-14
 58-ProSerProAlaLysIleGlnLysArgIleAspAspAlaLeuLysGluValAsnArgGlnMetSer-79
 90-PheAsnGlnHisThrAlaGly-96
 128-GlyProLeuValAsnLeuTrp-134
 151-IleLysGlnAlaAlaSerTyrThrGly-159
 170-AspTyrAlaSerLeu-174
 183-LeuAspLeuSerSerIleAlaLys-190
 209-TyrLeuValGluIleGlyGly-215
 314-GluThrGluAlaLeu-318

 320-LeuAlaGluGlnGlu-324

Antigenic Index - Jameson-Wolf

1-MetProSerGluThrArgLeuProAsnLeu-10
 26-CysSerGluGlnThrAla-31
 37-GlnGlyGluThrMetGly-42
 49-TyrLeuSerAsnAsnArgAspLysLeuProSerProAlaLysIleGlnLysArgIleAspAspAlaLeuLysGluValAsnArgGlnMetSer-79
 81-TyrGlnThrAspSerGluIleSerArgPheAsnGlnHisThrAlaGlyLysProLeuArgIleSerSerAspPhe-105
 111-GluAlaValArgLeuAsnArg-117

 135-GlyPheGlyProAspLysSerValThrArgGluProSerProGluGlnIleLysGln-153
 164-IleLeuGlnGlnGlyLysAspTyrAlaSerLeuSerLysThrHisProLysAla-181
 192-PheGlyValAspLysValAlaGlyGluLeuGluLysTyrGly-205
 213-IleGlyGlyGluLeuHisGlyLysGlyLysAsnAlaHisGlyGluProTrpArgIleGlyIleGluGlnProAsn-237
 250-LeuAsnAsnArgSerLeuAlaThrSerGlyAspTyrArg-262
 264-PheHisValAspLysAsnGlyLysArgLeuSer-274
 277-IleAsnProAsnAsnLysArgProIleSer-286
 295-ValSerAspSerAlaMetThrAlaAspGlyLeuSer-306
 314-GluThrGluAlaLeuArgLeuAlaGluGlnGluLys-325
 332-ValArgAspLysAspGlyTyrArg-339
 342-MetSerSerGluPhe-346

Hydrophilic Regions - Hopp-Woods

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1-MetProSerGluThrArgLeu-7

26-CysSerGluGlnThrAla-31

51-SerAsnAsnArgAspLysLeuProSer-59

61-AlaLysIleGlnLysArgIleAspAspAlaLeuLysGluValAsnArgGln-77

82-GlnThrAspSerGluIleSerArg-89

97-LysProLeuArgIleSerSer-103

111-GluAlaValArgLeuAsnArg-117

137-GlyProAspLysSerValThrArgGluProSerProGluGlnIleLysGln-153

167-GlnGlyLysAspTyrAlaSer-173

175-SerLysThrHisPro-179

192-PheGlyValAspLysValAlaGlyGluLeuGluLysTyrGly-205

217-LeuHisGlyLysGlyLysAsnAlaHis-225

267-AspLysAsnGlyLysArgLeuSer-274

279-ProAsnAsnLysArgProIle-285

314-GluThrGluAlaLeuArgLeuAlaGluGlnGluLys-325

332-ValArgAspLysAspGlyTyrArg-339

g117-1**AMPHI Regions - AMPHI**

6-ProIleGlnAspThrGlnSerAla-13

15-LeuGlnGluLeuArgGluTrpPheAspSerTyrCysAla-27

57-GlyGluProLeuProAspHis-63

69-GlnMetValAspGluLeuAspLeuLeu-77

79-AspAlaValAlaAlaThrLeuLeuAlaAspIleGlyArgTyr-92

104-CysAsnSerThrValAlaGluLeuValLysGlyValAspGluValGlnLysLeuThrHisPheAlaArgVal
AspSerLeu-130

145-LysMetLeuLeuAlaMet-150

170-PheLeuSerAsnAlaProAspSerProGluLys-180

216-GluProGluLysTyrArg-221

234-ArgLeuGluTyrIleGluAsnPheLeuAspIleLeuArg-246

260-GlyArgProLysHisIleTyrSerIleTyrLys-270

282-LeuPheAspIleArg-286

290-IleLeuValAspThrValProGluCysTyrThrThrLeuGlyIleValHisSerLeuTrpGlnProIlePro
GlyGluPheAspAspTyrIleAla-321

327-GlyTyrLysSerLeuHisThr-333

351-AspMetHisGlnPheAsnGluPheGlyValAla-361

385-GlnLeuLeuAspTrp-389

440-HisSerSerIleGlyAspArg-446

489-ValLysSerGlyLysAlaIleGlyLysIleArgAlaTyr-501

504-GlnGlnAsnAlaAsp-508

521-GlnLeuAlaLysLeu-525

532-GlnGluLeuAlaGlu-536

539-GlyTyrLysLysProGluAspLeuTyrThr-548

557-AsnArgAlaIleGlnLysAlaCysGlyThrLeuAsnGluProPro-571

585-LysIleLysLysGlyGly-590

603-MetThrThrLeuAlaLysCysCysLysProAlaProProAspAspIleAlaGly-620

637-SerPheArgHisLeuAlaGluHisAlaProGluLysValLeuAspAla-652

679-ArgAspValSerAspAla-684

714-GlnValAsnAspLeuProArgValLeuAlaGlyLeuGlyAspValLysGlyValLeuSerValThrArg-73

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Antigenic Index - Jameson-Wolf

5-SerProIleGlnAspThrGlnSerAlaThr-14
 16-GlnGluLeuArgGluTrpPheAspSerTyrCysAlaAlaLeuProAspAsnAspLysAsnLeu-36
 46-GluHisTyrProAla-50
 52-AlaAlaThrProTyrGlyGluProLeuProAspHisPhe-64
 70-MetValAspGluLeuAspLeuLeuPro-78
 88-AspIleGlyArgTyrValProAspTrp-96
 100-ValSerGluArgCysAsnSerThrVal-108
 110-GluLeuValLysGlyValAspGluValGlnLys-120
 125-AlaArgValAspSerLeuAlaThrProGluGluArgAlaGlnGlnAlaGluThrMetArg-144
 162-AlaMetArgThrArgThr-167
 173-AsnAlaProAspSerProGluLysArgAlaValAlaLysGluThrLeu-188
 209-AspLeuGlyPheArgHisGlnGluProGluLysTyrArgGlu-222
 227-LeuAspGluLysArgThrGluArgLeuGluTyr-237
 245-LeuArgThrGluLeuLysLys-251
 258-ValAlaGlyArgProLysHis-264
 271-LysMetValLysLysLysLeuSerPhe-279
 294-ThrValProGluCysTyr-299
 311-ProIleProGlyGluPheAspAspTyrIleAlaAsnProLysGlyAsnGlyTyrLysSer-330
 335-IleValGlyProGluGluLysGlyValGluValGlnIleArgThr-349
 364-TrpArgTyrLysGluGlyGlyLysGlyAspSerAlaTyrGluGlnLys-379
 387-LeuAspTrpArgGluAsnMetAlaGluSerGlyLysGluAspLeuAlaAla-403
 418-ThrProHisGlyLys-422
 440-HisSerSerIleGlyAspArgCysArgGlyAlaLysValGluGly-454
 461-ThrProLeuGluAsnGlyGlnArgValGluIleIleThrAlaLysGluGlyHisProSerValAsn-482
 487-GlyTrpValLysSerGlyLysAlaIleGlyLys-497
 502-IleArgGlnGlnAsnAlaAspThrValArgGluGluGlyArgValGlnLeuAspLysGlnLeuAla-523
 525-LeuThrProLysProAsnLeuGlnGluLeuAlaGlu-536
 538-LeuGlyTyrLysLysProGluAspLeu-546
 551-GlyGlnGlyGluIleSerAsnArgAlaIleGlnLysAlaCysGlyThrLeuAsnGluProProProVal-573
 582-LysGlnSerLysIleLysLysGlyGlyLysThr-592
 596-IleAspGlyGluAspGlyLeu-602
 608-LysCysCysLysProAlaProProAspAspIleAla-619
 622-ValThrArgGluArgGlyIleSerValHisArgLysThrCysProSerPhe-638
 644-HisAlaProGluLysValLeuAsp-651
 667-IleGluIleArgAlaGlnAspArgSerGlyLeuLeuArgAspValSerAspAlaLeuAlaArgHisLysLeu-690
 696-GlnThrGlnSerArgAspLeuGluAlaSerMet-706
 710-LeuGluValLysGlnValAsnAspLeuProArg-720
 726-GlyAspValLysGly-730

Hydrophilic Regions - Hopp-Woods

8-GlnAspThrGlnSer-12
 16-GlnGluLeuArgGluTrpPhe-22
 30-ProAspAsnAspLysAsnLeu-36
 70-MetValAspGluLeuAspLeuLeuPro-78
 100-ValSerGluArgCysAsnSerThr-107
 110-GluLeuValLysGlyValAspGluValGlnLys-120
 125-AlaArgValAspSer-129
 131-AlaThrProGluGluArgAlaGlnGlnAlaGluThrMetArg-144

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162-AlaMetArgThrArgThr-167
 174-AlaProAspSerProGluLysArgAlaValAlaLysGluThrLeu-188
 209-AspLeuGlyPheArgHisGlnGluProGluLysTyrArgGlu-222
 227-LeuAspGluLysArgThrGluArgLeuGluTyr-237
 245-LeuArgThrGluLeuLysLys-251
 258-ValAlaGlyArgProLysHis-264
 271-LysMetValLysLysLysLeuSerPhe-279
 314-GlyGluPheAspAsp-318
 323-ProLysGlyAsnGly-327
 337-GlyProGluGluLysGlyValGluValGlnIleArgThr-349
 365-ArgTyrLysGluGlyGlyLysGlyAspSerAlaTyrGluGln-378
 387-LeuAspTrpArgGluAsnMetAlaGluSerGlyLysGluAspLeuAlaAla-403
 443-IleGlyAspArgCysArgGlyAlaLysValGluGly-454
 463-LeuGluAsnGlyGlnArgValGluIleIleThrAlaLysGluGlyHisPro-479
 489-ValLysSerGlyLysAlaIleGlyLys-497
 505-GlnAsnAlaAspThrValArgGluGluGlyArgValGlnLeuAspLysGlnLeuAla-523
 538-LeuGlyTyrLysLysProGluAspLeu-546
 553-GlyGluIleSerAsn-557
 582-LysGlnSerLysIleLysLysGlyGlyLys-591
 596-IleAspGlyGluAspGlyLeu-602
 608-LysCysCysLysProAlaProProAspAspIle-618
 622-ValThrArgGluArgGlyIleSerValHisArgLysThrCysPro-636
 644-HisAlaProGluLysValLeu-650
 667-IleGluIleArgAlaGlnAspArgSerGlyLeuLeuArgAspValSerAspAlaLeuAlaArgHisLysLeu-690
 697-ThrGlnSerArgAspLeuGluAlaSerMet-706
 710-LeuGluValLysGlnValAsnAspLeuProArg-720
 726-GlyAspValLysGly-730
g118
AMPHI Regions - AMPHI
 24-GlyLysTrpTyrAsp-28
 57-IleProArgAspIle-61
 65-IleGlyThrIleIleAspPheLeuMetValProAsn-76
 94-IleHisGluArgTyrGluArgPheThrThrMetLeuArg-106

Antigenic Index - Jameson-Wolf

2-CysGluPheLysAspPheArgArgAsnIleProCys-13
 15-GluGluTyrAspGluAsnSerPhe-22
 24-GlyLysTrpTyrAspAspGlyValTrpAspAspGluGluTyrTrpLysLeuGluAsnAspLeuIleGluValArgArgLysTyrProTyrProMetAspIleProArgAspIle-61
 86-ProTrpLeuProAspSerValGlyIleHisGluArgTyrGluArg-100
 109-PheThrGluLysAspIleVal-115
 119-PheAspTyrTyrAsnLysLys-125

Hydrophilic Regions - Hopp-Woods

2-CysGluPheLysAspPheArgArgAsnIleProCys-13
 15-GluGluTyrAspGlu-19
 30-GlyValTrpAspAspGluGluTyrTrpLysLeuGluAsnAspLeuIleGluValArgArgLysTyrProTyr-53
 96-GluArgTyrGluArg-100
 109-PheThrGluLysAspIleVal-115
 121-TyrTyrAsnLysLys-125
g120

AMPHI Regions - AMPHI

-710-

6-LysAsnIlePheSerAla-11
 49-SerGlyAsnAlaTyrLysIleValSerThrIleLys-60
 77-AsnThrLeuHisProAlaTyrTyrLysAspIleArgArg-89
 142-IleThrAsnGlyLysLysLeuTyrSerValGlyGlyLeuAsnLysAlaGly-158
 188-AlaProSerLeuAsnAsnIleProAla-196

Antigenic Index - Jameson-Wolf

35-SerGlySerTyrGly-39
 45-ThrPheGluArgSerGlyAsnAlaTyrLys-54
 68-PheGluSerGlyGlyThrValVal-75
 83-TyrTyrLysAspIleArgArgGlyLysLeuTyrAla-94
 97-LysPheAlaAspGlySerValThrTyrGlyLysAlaGlyGluSerLysThrGluGlnSerProLysAla-119
 131-AlaAsnAspAlaLysLeuProProGlyLeuLysIleThrAsnGlyLysLysLeuTyrSer-150
 153-GlyLeuAsnLysAlaGlyThrGlyLysTyrSerIleGlyGlyValGluThrGluValValLysTyrArgVal
 ArgArgGlyAspAspThrVal-183
 199-GlyTyrThrAspAspGlyLysThrTyr-207
 218-GlyGlnAlaAlaLysPro-223

Hydrophilic Regions - Hopp-Woods

45-ThrPheGluArgSerGlyAsn-51
 85-LysAspIleArgArgGlyLysLeuTyrAla-94
 107-LysAlaGlyGluSerLysThrGluGlnSerProLysAla-119
 131-AlaAsnAspAlaLysLeu-136
 143-ThrAsnGlyLysLysLeuTyr-149
 155-AsnLysAlaGlyThrGly-160
 167-ValGluThrGluValValLysTyrArgValArgArgGlyAspAspThr-182
 200-TyrThrAspAspGlyLysThrTyr-207
 219-GlnAlaAlaLysPro-223

g121-1**AMPHI Regions - AMPHI**

40-ProTyrProAspArgLeuArgArgLysLeu-49
 68-GlnGluLeuSerArgLeuTyrAlaGlnThr-77
 101-ThrValArgHisAlaPro-106
 117-LeuProLeuLeuAlaGluLeuThrArgIlePheThrValGly-130
 148-ProAlaPheHisGlu-152
 167-IleGlyGlyIleAlaAsnIleSerVal-175
 189-ProGlyAsnMetLeuMetAspAlaTrpThr-198
 216-GlyAsnIleLeuProGlnLeuLeuGlyArgLeuLeuAlaHisPro-230
 236-HisProLysSerThrGly-241
 251-GluThrTyrLeuAsp-255
 262-AspValLeuArgThrLeuSerArgPheThrAlaGlnThrValTrpAspAlaValSerHis-281
 303-AlaAspLeuAlaGluCysPhe-309
 341-IleAsnArgIleProGlySerPro-348

Antigenic Index - Jameson-Wolf

13-ThrSerMetAspGlyAlaAsp-19

23-ValArgMetAspGlyGlyLysTrpLeuGly-32

40-ProTyrProAspArgLeuArgArgLysLeuLeuAspLeuGlnAspThrGlyThrAspGluLeuHisArgSerA
 rgMetLeuSer-67

85-GlnAsnLeuAlaProCysAsp-91
 97-CysHisGlyGlnThrValArgHisAlaProGluHisGlyTyrSer-111
 128-ThrValGlyAspPheArgSerArgAspLeuAlaAlaGlyGlyGlnGly-143

-711-

154-LeuPheArgAspAspArgGluThrArgVal-163
 186-AspThrGlyProGlyAsnMet-192
 205-ProTyrAspLysAsnGlyAlaLysAlaAlaGlnGlyAsn-217
 235-ProHisProLysSerThrGlyArgGlu-243
 253-TyrLeuAspGlyGlyGluAsnArgTyrAspValLeuArgThrLeuSer-268
 283-AlaAlaAspAlaArgGln-288
 293-GlyGlyGlyIleArgAsnProValLeu-301
 344-IleProGlySerProHisLysAlaThrGlyAlaSerLysProCysIle-359

Hydrophilic Regions - Hopp-Woods

13-ThrSerMetAspGlyAlaAsp-19

41-TyrProAspArgLeuArgArgLysLeuLeuAspLeuGlnAspThrGlyThrAspGluLeuHisArgSerArgMetLeuSer-67

101-ThrValArgHisAlaPro-106

131-AspPheArgSerArgAspLeuAlaAla-139

154-LeuPheArgAspAspArgGluThrArgVal-163

206-TyrAspLysAsnGlyAlaLysAlaAlaGln-215

235-ProHisProLysSerThrGlyArgGlu-243

254-LeuAspGlyGlyGluAsnArgTyrAspVal-263

283-AlaAlaAspAlaArgGln-288

345-ProGlySerProHisLysAlaThrGlyAlaSerLys-356

g122-1**AMPHI Regions - AMPHI**

6-AsnIleHisLysThrPhe-11

42-ThrPheLeuArgCysLeuAsnAlaLeuGluMetProGlu-54

102-LeuGluAsnValMetGlu-107

126-LysLeuLeuGluLys-130

176-ProGluLeuValGlnAspValLeuAspAlaMetLysGluLeuAlaArgGluGly-193

227-ProLysGluLeuPheAspHisLeuLysHisGlu-237

Antigenic Index - Jameson-Wolf

5-ArgAsnIleHisLysThrPheGlyGluAsnThrIle-16

20-IleAspLeuAspValGlyLysGlyGln-28

34-GlyProSerGlySerGlyLysThrThr-42

51-GluMetProGluAspGlyGlnIleGluPheAspAsnAlaArgProLeuArgIleAspPheSerLysLysThrSerLysHisAsp-78

81-AlaLeuArgArgLysSerGlyMet-88

96-PheProHisLysThrValLeu-102

114-GlyLysProAlaAlaGlnAlaArgGluGluAlaLeuLysLeuLeuGlu-129

131-ValGlyLeuGlyAspLysValAspLeuTyr-140

142-TyrGlnLeuSerGlyGlyGlnGlnGlnArgValGlyIle-154

168-AspGluProThrSerAlaLeuAspProGluLeuVal-179

182-ValLeuAspAlaMetLysGluLeuAlaArgGluGlyTrp-194

216-MetAspGlyGlyVal-220

222-ValGluGlnGlySerProLysGluLeuPheAsp-232

234-LeuLysHisGluArgThrArgArgPheLeu-243

Hydrophilic Regions - Hopp-Woods

20-IleAspLeuAspValGlyLys-26

51-GluMetProGluAspGlyGlnIleGluPheAspAsnAlaArgProLeuArgIleAspPheSerLysLysThrSerLysHisAsp-78

81-AlaLeuArgArgLysSerGly-87

-712-

114-GlyLysProAlaAlaGlnAlaArgGluGluAlaLeuLysLeuLeuGlu-129
 131-ValGlyLeuGlyAspLysValAsp-138
 168-AspGluProThrSerAlaLeuAspProGluLeuVal-179
 182-ValLeuAspAlaMetLysGluLeuAlaArg-191
 224-GlnGlySerProLysGluLeuPheAsp-232
 234-LeuLysHisGluArgThrArgArgPheLeu-243
g126-1

AMPHI Regions - AMPHI

26-LeuLysGlnSerValArg-31
 73-GlyCysGlnSerValGlnGluAla-80
 112-PheGlnLeuValGluAla-117
 143-LeuAspAlaGlyCysGln-148

150-LeuMetProTrpAlaAlaProIleGlyThrGlyLeuGlyAlaVal-164
 213-SerGlyAspProValAsnMetAlaArgAlaPhe-223

Antigenic Index - Jameson-Wolf

7-GluThrPheProSerArgLeu-13
 24-GluIleLeuLysGlnSerValArgThrAlaArg-34
 41-SerLeuArgArgThrGlyCysGlyGlyGluAlaHisGlyGlnGlyPhe-56
 85-GlnMetAlaArgGluValPheGlu-92

99-GluLeuIleGlyAspAspAspThrLeuGln-108

121-LeuIleLysAspGlyPheLysValLeu-129
 141-ArgLeuLeuAspAlaGlyCys-147
 171-IleLeuArgGluArgLeuProAspThrProLeu-181
 209-AlaValSerArgSerGlyAspProValAsn-218
 228-GluSerGlyArgLeuAlaPhe-234
 237-GlyProValGluAlaArgThrLysAlaGlnAlaSerThrProThrVal-252

Hydrophilic Regions - Hopp-Woods

24-GluIleLeuLysGlnSerValArgThrAlaArg-34
 41-SerLeuArgArgThrGlyCysGlyGlyGluAlaHis-52
 85-GlnMetAlaArgGluValPheGlu-92

100-LeuIleGlyAspAspAspThrLeuGln-108
 171-IleLeuArgGluArgLeuProAsp-178
 210-ValSerArgSerGlyAspPro-216

228-GluSerGlyArgLeuAlaPhe-234
 237-GlyProValGluAlaArgThrLysAlaGlnAla-247
g127

AMPHI Regions - AMPHI

6-MetLeuAsnThrTrpProAsp-12
 22-GluSerValAlaAla-26
 119-ValGlyAspTyrIleGluIle-125
 135-IleAsnLeuLeuAsnThrLeuMet-142
 147-ProAsnProLeuValGlyGlnLeuAla-155
 206-LeuGluProLeuCysAlaPro-212
 214-IleProAlaIleGlnArgTyrLeuGluAsnValGln-225
 250-ArgIleIleValArgPheAlaSerProVal-259
 268-AlaValMetAspGluPheLeuArgVal-276

-713-

Antigenic Index - Jameson-Wolf

14-ValProIleArgAlaGluAlaAlaGlu-22
 41-HisPheArgArgHisProAspPheGlyIleGluSerLysArgArgPheLeuVal-58
 112-SerAlaThrGlnGlnTyrSerVal-119
 126-AsnGlyLeuArgGlyArgValValAsp-134
 169-HisProValArgArgAspAsnIleLeu-177
 193-LeuAspSerAspGluAlaValCysArg-201
 234-AlaAlaArgProArgValThrArgValProTyrAspAspLysAlaTyr-249
 257-SerProValSerLysArgLeuGluIle-265
 282-AsnHisProAlaGlySerGluThrLeu-290

Hydrophilic Regions - Hopp-Woods

14-ValProIleArgAlaGluAlaAlaGlu-22
 42-PheArgArgHisProAspPheGlyIleGluSerLysArgArgPheLeuVal-58
 126-AsnGlyLeuArgGlyArgValVal-133
 170-ProValArgArgAspAsnIleLeu-177
 193-LeuAspSerAspGluAlaValCysArg-201
 235-AlaArgProArgValThrArgValProTyrAspAspLysAlaTyr-249
 259-ValSerLysArgLeuGluIle-265
 285-AlaGlySerGluThrLeu-290

g128-2**AMPHI Regions - AMPHI**

43-AlaGlnThrHisThrGlyTrpAlaAsnThrValGluArgLeuThrGlyIleThrGluArgValGlyArgIleT
 rpGlyValValSerHisLeuAsnSerValVal-77
 85-ValTyrAsnGluLeuMetProGluIle-93
 102-GlnAspIleGluLeuTyrAsnArgPheLysThrIleLysAsnSerProGlu-118
 166-PheSerGlnAsnValLeuAspAlaThrAsp-175
 189-GlyIleProGluAspAla-194
 218-HisTyrLeuAlaVal-222
 231-LeuArgGluGlnIleTyr-236
 245-GluLeuSerAsnAspGlyLysPheAspAsnThrAlaAsnIleAspArgThrLeuGluAsnAlaLeuLysThr
 AlaLysLeuLeuGlyPheLysAsnTyrAlaGlu-279
 286-MetAlaAspThrProGluGlnValLeuAsnPheLeuHisAspLeuAlaArgArgAla-304
 313-AlaGluValLysAlaPhe-318
 360-LysValLeuAlaGlyLeuPheAlaGlnIleLysLysLeuTyrGly-374
 472-LeuHisHisLeuLeuThrGlnValAspGluLeu-482
 496-GluLeuProSerGlnPhe-501
 522-GlyGluProLeuProLysGluLeuPheAspLys-532
 570-TrpGlnGlnValLeuAspSerVal-577
 584-IleGlnProProGluTyrAsnArgPheAlaAsnSerPheGlyHisIlePheAlaGlyGly-603
 610-SerTyrAlaTrpAlaGlu-615
 623-AlaAlaPheGluGluSerAspAsp-630
 636-LysArgPheTrpGlnGluIleLeuAla-644
 651-AlaAlaGluSerPheLysAlaPheArg-659

Antigenic Index - Jameson-Wolf

9-LeuGlyGluGluProArgPheAsnGlnIleLysThrGluAspIleLysProAlaVal-27
 32-AlaGluAlaArgGly-36
 43-AlaGlnThrHisThrGlyTrp-49
 52-ThrValGluArgLeuThrGlyIleThrGluArgValGlyArgIleTrp-67
 77-ValAspThrProGluLeu-82
 100-IleGlyGlnAspIleGluLeuTyrAsnArgPheLysThrIleLysAsnSerProGluPhe-119
 123-SerProAlaGlnLysThrLysLeuAspHisAspLeuArgAsp-136
 140-SerGlyAlaGluLeuProProGluArgGlnAlaGluLeuAlaLysLeuGlnThrGluGlyAlaGlnLeu-16

165-LysPheSerGlnAsnVal-170
172-AspAlaThrAspAla-176
190-IleProGluAspAla-194
202-AlaGlnSerGluGlyLysThrGlyTyrLys-211
225-TyrAlaGlyAsnArgGluLeuArgGluGlnIle-235
242-ArgAlaSerGluLeuSerAsnAspGlyLysPheAspAsnThrAlaAsnIleAspArgThrLeuGluAsnAla
LeuLysThr-268
285-LysMetAlaAspThrProGluGln-292
300-LeuAlaArgArgAlaLysProTyrAlaGluLysAspLeuAlaGlu-314
316-LysAlaPheAlaArgGluHisLeuGlyLeuAlaAspProGlnProTrpAspLeu-333
335-TyrAlaGlyGluLysLeuArgGluAlaLysTyrAlaPheSerGluThrGluValLysLys-354
377-PheAlaGluLysThr-381
387-LysAspValArgTyrPheGluLeuGlnGlnAsnGlyLysThrIle-401
409-TyrAlaArgGluGlyLysArgGlyGlyAla-418
420-MetAsnAspTyrLysGlyArgArgArgPheAlaAspGlyThrLeu-434
447-ProProValGlyGlyLysGluAlaArgLeuSerHisAspGlu-460
478-GlnValAspGluLeuGlyVal-484
496-GluLeuProSerGln-500
516-SerAlaHisGluGluThrGlyGluProLeuPro-526
560-SerGluSerAspGluCysArgLeuLysAsn-569
575-AspSerValArgLysGluValAla-582
585-GlnProProGluTyrAsnArgPheAlaAsnSerPheGly-597
605-SerAlaGlyTyrTyrSerTyr-611
625-PheGluGluSerAspAspValAlaAlaThrGlyLysArgPheTrp-639
646-GlyGlySerArgSerAlaAlaGluSerPheLysAlaPheArgGlyArgGluProSerIle-665
669-LeuArgHisSerGlyPheAspAsnAlaAla-678

Hydrophilic Regions - Hopp-Woods

9-LeuGlyGluGluProArgPheAsnGlnIleLysThrGluAspIleLysPro-25
32-AlaGluAlaArgGly-36
52-ThrValGluArgLeuThrGlyIleThrGluArgValGly-64
77-ValAspThrProGluLeu-82
100-IleGlyGlnAspIleGluLeu-106
111-LysThrIleLysAsnSerProGlu-118
124-ProAlaGlnLysThrLysLeuAspHisAspLeuArgAsp-136
143-GluLeuProProGluArgGlnAlaGluLeuAlaLysLeuGlnThrGluGlyAlaGlnLeu-162
190-IleProGluAspAla-194
202-AlaGlnSerGluGlyLysThrGlyTyr-210
227-GlyAsnArgGluLeuArgGluGlnIle-235
242-ArgAlaSerGluLeuSerAsnAspGlyLysPheAspAsn-254
256-AlaAsnIleAspArgThrLeuGluAsnAlaLeuLysThr-268
285-LysMetAlaAspThrProGlu-291
300-LeuAlaArgArgAlaLysProTyrAlaGluLysAspLeuAlaGlu-314
316-LysAlaPheAlaArgGluHisLeuGly-324
335-TyrAlaGlyGluLysLeuArgGluAlaLysTyrAlaPheSerGluThrGluValLysLys-354
377-PheAlaGluLysThr-381
387-LysAspValArgTyr-391
396-GlnAsnGlyLysThr-400
409-TyrAlaArgGluGlyLysArgGlyGly-417
423-TyrLysGlyArgArgArgPheAlaAsp-431
449-ValGlyGlyLysGluAlaArgLeuSerHisAspGlu-460
478-GlnValAspGluLeuGly-483
516-SerAlaHisGluGluThrGlyGluProLeuPro-526
560-SerGluSerAspGluCysArgLeuLysAsn-569
575-AspSerValArgLysGluValAla-582

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625-PheGluGluSerAspAspValAlaAlaThrGly-635
 647-GlySerArgSerAlaAlaGluSerPheLysAlaPheArgGlyArgGluProSerIle-665
g130

AMPHI Regions - AMPHI

16-ThrLeuValSerGlyIle-21
 36-GlySerGlySerPheGly-41
 56-GlnProValGlyGlnLeu-61
 91-AsnValProAsnAlaPro-96
 110-GlnGlyPheAspThrLeuPheGlnHisAlaLeuAsnGlyPheAsnAlaMet-126
 171-ThrAlaSerAlaPro-175
 204-PheGluAlaThrCysGln-209
 211-CysHisGlyGlySerIleProGlyIlePro-220
 234-LysGlyLysGluThr-238
 245-GluGlyPheAsnAlaMet-250

Antigenic Index - Jameson-Wolf

1-MetLysGlnLeuArgAspAsnLysAlaGlnGlySer-12
 35-AlaGlySerGlySerPheGlyAspValAspAlaThrThrGluAlaAlaThrGlnThrArgIleGlnProValGly-59
 63-MetGlyAspGlyIleProValGlyGluArgGlnGlyGlu-75
 87-AlaAlaAspSerAsnValProAsnAlaProLysLeuGluHisAsnGlyAspTrpAla-105
 108-IleAlaGlnGlyPhe-112
 126-MetProAlaLysGlyGlyAla-132
 134-AspLeuThrAspGlnGluLeuLysArg-142
 148-AlaAsnLysSerGlyGlySerPheProAsnProAspGluAlaAlaProAlaAspAsnAlaAlaSerGlyThrAlaSerAlaProAlaAspSerAlaAlaProAlaGluAlaLysAlaGluAspLysGlyAlaAla-192
 197-GlyValAspGlyLysLysValPheGlu-205
 221-GlyIleGlyLysLysAspAspTrpAlaProArgIleLysLysGlyLysGluThrLeuHis-240
 251-ProAlaLysGlyGlyAsnAlaGlyLeuSerAspAspGluValLysAla-266
 274-GlnSerGlyAlaLys-278

Hydrophilic Regions - Hopp-Woods

1-MetLysGlnLeuArgAspAsnLysAlaGlnGly-11
 41-GlyAspValAspAlaThrThrGluAlaAlaThr-51
 68-ProValGlyGluArgGlnGlyGlu-75
 87-AlaAlaAspSerAsnVal-92
 96-ProLysLeuGluHisAsnGly-102
 127-ProAlaLysGlyGlyAla-132
 134-AspLeuThrAspGlnGluLeuLysArg-142
 156-ProAsnProAspGluAlaAlaProAlaAspAsnAlaAla-168
 174-AlaProAlaAspSerAlaAlaProAlaGluAlaLysAlaGluAspLysGlyAlaAla-192
 198-ValAspGlyLysLysValPheGlu-205
 222-IleGlyLysLysAspAspTrpAlaProArgIleLysLysGlyLysGluThrLeuHis-240
 251-ProAlaLysGlyGlyAsn-256
 258-GlyLeuSerAspAspGluValLysAla-266
g132-2

AMPHI Regions - AMPHI

13-IleIleSerAlaLeuAlaVal-19
 70-AlaThrCysMetAlaMetVal-76
 92-IleArgGlnThrGlnGlnAlaProLysProValSerAsnThr-105

Antigenic Index - Jameson-Wolf

26-GlnHisGlyLysGlyAlaAspAla-33
 38-GlySerGlySerGlySerAla-44

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81-HisThrThrLysHisGlyLeuAspPheSerAsnIleArgGlnThrGlnGlnAlaProLysProValSerAsnT
hrGluProSerAlaProValProGlnGlnGlnLys-116

Hydrophilic Regions - Hopp-Woods

28-GlyLysGlyAlaAspAla-33
93-ArgGlnThrGlnGlnAlaProLysProValSerAsnThrGluProSerAla-109
g134

AMPHI Regions - AMPHI

39-IleGlnSerAlaGlyThrVal-45
47-GlyLysLysThrGly-51
56-SerAspTrpMetAspIleGluLysGlnArg-65
83-ValAsnLeuLeuAspThrProGlyHis-91
97-AspThrTyrArgValLeuThrAlaVal-105
114-AlaAlaLysGlyValGlu-119
123-IleLysLeuLeuAsnValCysArg-130
142-LysTyrAspArgGluVal-147
149-AspSerLeuGluLeuLeuAspGluValGluAspIleLeuGln-162
176-LysAsnPheLysGlyValTyrHisIleLeu-185
201-HisGluPheAspIleIleLysGlyIleAsnAsn-211
254-PheGlySerAlaIle-258
265-GluIleLeuAsnSerLeuIleAspTrpAlaPro-275
322-LysPheGluArgGlyMetLys-328
361-AspIleIleGlyIleProAsnHis-368
395-LeuPheArgSerValArgIleLys-402
404-ProLeuLysIleLysGln-409
411-GlnLysGlyLeuGlnGlnLeuGlyGlu-419
423-ValGlnValPheLysProMetSer-430
449-SerArgLeuAlaAsnGluTyr-455
481-AlaGluPheGluLysAlaAsn-487
515-ArgTrpProAspIle-519

Antigenic Index - Jameson-Wolf

4-GluIleLeuAspGlnValArgArgArgThrPhe-15
19-SerHisProAspAlaGlyLysThrThrLeuThr-29
43-GlyThrValLysGlyLysLysThrGlyLysPheAlaThr-55
57-AspTrpMetAspIleGluLysGlnArgGly-66
76-PheAspTyrLysAspHisThrVal-83
85-LeuLeuAspThrProGlyHisGlnAspPheSerGluAspThrTyrArg-100
113-AspAlaAlaLysGlyValGlu-119
129-CysArgLeuArgAspThrPro-135
140-MetAsnLysTyrAspArgGluValArgAspSerLeuGluLeuLeuAspGluValGluAsp-159
173-GlyMetGlyLysAsnPheLys-179
194-AlaGlyGlyGluArgLeuProHis-201
207-LysGlyIleAsnAsnProGluLeuGluGlnArgPheProLeu-220
223-GlnGlnLeuArgAspGluIleGluLeu-231
235-AlaSerAsnGluPheAsnLeu-241
274-AlaProAlaProLysProArgAspAlaThrMet-284
286-MetValGlyProAspGluProLysPhe-294
302-GlnAlaAsnMetAspProLysHisArgAspArgIleAla-314
317-ArgValCysSerGlyLysPheGluArgGlyMetLysMetLysHisLeuArgIleAsnArgGluIleAla-33
9
348-SerHisAspArgGluLeuAlaGluGluAlaTyrAla-359
365-IleProAsnHisGly-369
373-IleGlyAspSerPheSerGluGlyGln-382

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399-ValArgIleLysAsnProLeuLysIleLysGlnLeuGlnLysGlyLeuGlnGlnLeuGlyGluGluGlyAla-422
 450-ArgLeuAlaAsnGluTyrGlyVal-457
 459-AlaValPheAspSer-463
 473-SerCysAspAspLysLysLysLeuAlaGluPheGluLysAlaAsnAla-488
 503-AlaProAsnArgValAsnLeu-509
 511-LeuThrGlnGluArgTrpProAspIleVal-520
 523-GluThrArgGluHisSerVal-529

Hydrophilic Regions - Hopp-Woods

4-GluIleLeuAspGlnValArgArgArgArgThr-14
 21-ProAspAlaGlyLys-25
 43-GlyThrValLysGlyLysLysThrGlyLys-52
 59-MetAspIleGluLysGlnArgGly-66
 77-AspTyrLysAspHisThr-82
 92-GlnAspPheSerGluAspThrTyr-99
 113-AspAlaAlaLysGlyValGlu-119
 129-CysArgLeuArgAspThrPro-135
 142-LysTyrAspArgGluValArgAspSerLeuGluLeuLeuAspGluValGluAsp-159
 194-AlaGlyGlyGluArgLeuProHis-201
 212-ProGluLeuGluGlnArgPheProLeu-220
 223-GlnGlnLeuArgAspGluIleGluLeu-231
 277-ProLysProArgAspAlaThrMet-284
 287-ValGlyProAspGluProLysPhe-294
 305-MetAspProLysHisArgAspArgIleAla-314
 319-CysSerGlyLysPheGluArgGlyMetLysMetLysHisLeuArgIleAsnArgGluIleAla-339
 348-SerHisAspArgGluLeuAlaGluGluAlaTyrAla-359
 376-SerPheSerGluGlyGluGln-382
 399-ValArgIleLysAsnProLeuLysIleLysGlnLeuGln-411
 417-LeuGlyGluGluGlyAla-422
 473-SerCysAspAspLysLysLysLeuAlaGluPheGluLysAlaAsnAla-488
 512-ThrGlnGluArgTrpPro-517
 523-GluThrArgGluHisSerVal-529

g135-2**AMPHI Regions - AMPHI**

29-ThrIleThrArgGlnLeuAlaAlaLeu-37
 85-GluTyrThrAlaAsnLeu-90
 169-AspIleAspGlyLeuTyrThr-175
 185-ValArgLeuAspLysIleGluHis-192
 212-GlyMetLeuThrLysIle-217
 236-LeuLysProAspSerLeuAlaGluAlaAlaGlu-246
 284-AlaGluHisAlaLeuSer-289
 300-IleAlaGlyIleGluGly-305

308-SerArgMetAspThrValThrValTyr-316

318-LysAlaThrLysGlnPro-323

Antigenic Index - Jameson-Wolf

1-MetLysTyrLysArgIleVal-7
 14-SerIleThrArgSerAspGlySerLeuSerArgGlyLysIleGlnThrIle-30
 60-GlyPheLysLysArgProValLysIleAlaAspLysGlnAlaSer-74
 90-LeuSerSerAspGlyIle-95
 105-AlaAspPheAlaAspLysArgArgTyrGlnAsnAlaGlyGly-118

-718-

124-LeuGlnArgArgAlaIle-129
 132-IleAsnGluAsnAspThrValSerValGluGluLeuLysIleGlyAspAsnAspThrLeu-151
 176-GlyAsnProAsnSerAsnProAspAlaValArgLeuAspLysIleGluHisIleAsn-194
 202-GlyGlySerGlySerAlaAsnGlyThrGly-211
 215-ThrLysIleLysAla-219
 224-AlaGluSerGlyVal-228
 233-CysSerSerLeuLysProAspSerLeuAlaGluAlaAlaGluHisGlnAlaAspGly-251
 257-ArgAlaLysGlyLeuArgThrGlnLysGln-266
 271-TyrSerGluSerArgGlySerValTyrValAspGluGlyAlaGluHisAlaLeuSerGluGlnGlyLysSerLeu-296
 305-GlyHisPheSerArgMetAspThr-312
 317-SerLysAlaThrLysGlnProLeuGlyLysGlyArgVal-329
 335-AlaAlaGluAspLeuLeuLysSerArgLysAlaLys-346
 350-IleHisArgAspAspTrpIleSer-357

Hydrophilic Regions - Hopp-Woods

1-MetLysTyrLysArgIleVal-7
 14-SerIleThrArgSerAspGlySerLeuSerArgGlyLysIle-27
 60-GlyPheLysLysArgProValLysIleAlaAspLysGlnAlaSer-74
 105-AlaAspPheAlaAspLysArgArgTyrGlnAsn-115
 124-LeuGlnArgArgAlaIle-129
 133-AsnGluAsnAspThrValSerValGluGluLeuLysIleGlyAspAsnAspThrLeu-151
 178-ProAsnSerAsnProAspAlaValArgLeuAspLysIleGluHisIleAsn-194
 215-ThrLysIleLysAla-219
 236-LeuLysProAspSerLeuAlaGluAlaAlaGluHisGlnAlaAsp-250
 257-ArgAlaLysGlyLeuArgThrGlnLys-265
 272-SerGluSerArgGly-276
 278-ValTyrValAspGluGlyAlaGluHisAlaLeuSerGluGlnGlyLys-293
 306-HisPheSerArgMetAspThr-312
 318-LysAlaThrLysGlnProLeuGlyLysGlyArgVal-329
 335-AlaAlaGluAspLeuLeuLysSerArgLysAlaLys-346
 351-HisArgAspAspTrp-355
g136
AMPHI Regions - AMPHI
 61-AlaValAspValCysGlnArgValArgGlnPheGlyArgLysPheArgGlnLeuAlaPhe-80
 100-HisHisGlyValLysGlnLeuPheLysArgPheIleIle-112
 114-GlyPheLysProIleGlyArgHis-121
 162-ArgHisCysGlnAsn-166
 184-GlnHisPheGlyGlnPro-189
 191-GluArgCysGlnPheVal-196

Antigenic Index - Jameson-Wolf

1-MetGluIleArgPhe-5
 52-ArgPheValAspAspArgLeuProVal-60
 64-ValCysGlnArgValArgGlnPheGlyArgLysPheArg-76
 83-LeuGlnAlaAspAsn-87
 113-GlyGlyPheLysProIleGlyArgHisAsnValGln-124
 153-IleArgHisArgGlyGlyCysPheHisArgHisCysGlnAsnGlnProPheAsp-170
 173-ThrPheGlyGlyGlyLysLeuArg-180
 185-HisPheGlyGlnProValGluArg-192
 198-ProAlaGlnGlnArgArgHisLysThr-206

Hydrophilic Regions - Hopp-Woods

-719-

1-MetGluIleArgPhe-5
 52-ArgPheValAspAspArgLeuProVal-60
 64-ValCysGlnArgValArgGlnPheGlyArgLysPheArg-76
 199-AlaGlnGlnArgArgHisLysThr-206
g137
AMPHI Regions - AMPHI
 24-LeuSerTyrIleLeuGlyPhe-30
 49-ThrLysGluSerLeu-53
 55-AspPheLeuThrTrpGly-60
 78-PheSerAspTyrLeuAlaHisProLeuAspIlePheLysValTrpGluGlyGly-95
 101-GlyPheLeuGlyValValIle-107
 120-PheLeuLysLeuMetAspThrValAlaProLeuValPro-132
 139-ArgIleGlyAsnPheIle-144
 149-TrpGlyArgIleThrAspIleAsnAlaPhe-158
 178-ProLeuTrpAlaGluTrpLeuGlnGlnTyr-187
 190-LeuProArgHisProSerGlnLeu-197
 232-TyrGlyValPheArgPheIleAlaGluPheAlaArgGlnProAspAspTyrLeuGly-250

Antigenic Index - Jameson-Wolf
 36-LeuGlyArgArgArgIleAlaGln-43
 48-PheThrLysGluSerLeuAspAsp-55
 92-TrpGluGlyGlyMet-96
 113-SerArgLysHisGlyIle-118
 136-AlaSerGlyArgIle-140
 166-AlaHisTyrGluAspAlaGluAlaAlaAla-175
 191-ProArgHisProSerGlnLeu-197
 215-SerLysLysProArgProThrGlyGln-223
 241-PheAlaArgGlnProAspAspTyrLeu-249
 277-PheGlyMetLysLysGlnHis-283

Hydrophilic Regions - Hopp-Woods
 37-GlyArgArgArgIleAla-42
 48-PheThrLysGluSerLeuAsp-54
 167-HisTyrGluAspAlaGluAlaAlaAla-175
 216-LysLysProArgProThrGly-222
 241-PheAlaArgGlnProAspAspTyr-248
 278-GlyMetLysLysGlnHis-283

g138
AMPHI Regions - AMPHI
 21-ProTyrIleArgArgPheSerGlySer-29
 74-AsnAlaMetLeuGluLysVal-80
 85-GluPheValGlnGlyMet-90
 109-ValAsnLysGluIleValSerMetIleAsnThrTyrGly-121
 152-IleGlyGlnValGlyThrValGluSerIle-161
 163-ThrGlyLeuValLysGlyLeu-169
 199-GlyLysLeuAlaGluGluLeu-205
 213-MetThrAsnIleAlaGlyValMetAspLysThrGlyAsnLeuLeuThrLysLeuThr-231
 234-ArgIleAspGlyLeu-238
 247-GlyMetLeuProLysIleAlaSerAlaValGluAlaAlaValAsn-261
 276-AlaLeuLeuLeuGluIlePheThrAspAla-285

Antigenic Index - Jameson-Wolf
 9-AlaAlaAspLysAlaArgIleLeu-16
 23-IleArgArgPheSerGlySer-29
 35-TyrGlyGlyAsnAlaMetThr-41

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43-ProAlaLeuLysGluGlyPheAla-50
 68-GlyGlyGlyProGln-72
 76-MetLeuGluLysValGlyLysLysGlyGluPhe-86
 91-ArgValThrAspLysGluThrMetAsp-99
 109-ValAsnLysGluIle-113
 128-SerGlyArgAspAspHisPheIleLysAlaLysLysLeuLeuValAspThrProGluGlnAsnSerValAsp
 IleGlyGln-154
 159-GluSerIleAspThrGlyLeu-165
 169-LeuIleGluArgGlyCysIle-175
 182-GlyValGlyGluLysGlyGluAla-189
 200-LysLeuAlaGluGluLeuAsnAlaGluLys-209
 219-ValMetAspLysThrGlyAsnLeuLeuThrLysLeuThrProLysArgIleAspGlyLeuIleAla-240
 259-AlaValAsnGlyValLys-264
 269-IleAspGlyArgLeuProAsnAla-276
 291-IleLeuGlyArgGlyGluAspAla-298

Hydrophilic Regions - Hopp-Woods

9-AlaAlaAspLysAlaArgIleLeu-16
 43-ProAlaLeuLysGluGlyPheAla-50
 76-MetLeuGluLysValGlyLysLysGlyGluPhe-86
 91-ArgValThrAspLysGluThrMetAsp-99
 109-ValAsnLysGluIle-113
 128-SerGlyArgAspAspHisPheIleLysAlaLysLysLeuLeuValAspThrProGluGlnAsnSerValAsp
 -151
 183-ValGlyGluLysGlyGluAla-189
 200-LysLeuAlaGluGluLeuAsnAlaGluLys-209
 219-ValMetAspLysThrGly-224
 230-LeuThrProLysArgIleAspGlyLeuIle-239
 269-IleAspGlyArgLeu-273
 293-GlyArgGlyGluAspAla-298

g140**AMPHI Regions - AMPHI**

10-TyrLeuAsnSerThr-14
 32-PhePheLysAsnIleLysThr-38
 45-SerLeuAspSerValGluLysThrAlaGly-54
 68-AsnAlaAlaArgThrAlaSer-74
 108-SerAlaThrProGluThrValGluThrAlaVal-118
 137-AlaAlaAlaValGlnHisAlaAsnThrAlaAspGlyValArgIlePheAsnSerLeuAlaAlaThr-158
 175-LeuLysAlaValSerAspGlyLeuAsp-183
 189-LeuArgValIleAlaGln-194
 266-IleGlyTyrLeuLysGlyLeuPheSerTyr-275
 290-GluTyrAlaGluGlySer-295
 303-LeuGlyAlaLeuGly-307
 352-GlyThrLeuValGlyLeu-357
 391-GlyGlyPheThrGlyAlaAla-397
 425-AsnGlyTrpAsnGlyLeuAlaArg-432

Antigenic Index - Jameson-Wolf

1-MetSerAlaArgGlyLysGlyAlaGly-9
 12-AsnSerThrGlyArgHisVal-18
 25-LysIleGlyGlnAspTyrSerPhe-32
 34-LysAsnIleLysThrAspGlyGlyLeu-42
 47-AspSerValGluLysThrAlaGlySerGluGlyAspThrProSer-61
 63-TyrValArgArgGlyAsnAlaAlaArgThrAlaSer-74
 86-HisAlaValGluGlnGlyGlySerAsnLeuGlu-96

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102-LeuAspAlaSerGluSerSerAlaThrProGluThrValGlu-115
 117-AlaValAlaAspArgThrAspMetProGlyIleArgLeuArgArgThrThrPhe-134
 144-AsnThrAlaAspGlyValArg-150
 160-TyrAlaAspSerAlaAlaAla-166
 169-AspMetGlnGlyArgLeuLysAlaValSerAspGlyLeuAspHisAsnGlyThrGlyLeu-189
 195-ThrGlnGlnAspGlyGlyThrTrpGluGlnGlyGlyValGluGlyLysMetArgGlySerThr-215
 221-AlaAlaLysThrGlyGluAsnThrThr-229
 236-IleGlyArgSerThrTrpSerGluAsnSerAlaAsnAlaLysThrAspSerIle-253
 259-IleArgHisAspValGlyAsp-265
 274-SerTyrGlyArgTyrLysAsnSerIleSerArgSerThrGlyAlaAspGluTyrAlaGlu-293
 315-AlaThrGlyAspLeuThrValGluGlyGlyLeuArgHisAspLeuLys-331
 333-AspAlaPheAlaGluLysGlySerAlaLeuGlyTrpSerGlyAsnSerLeuThrGluGlyThr-353
 362-LeuSerGlnProLeuSerAspLysAlaVal-371
 376-AlaGlyValGluArgAspLeuAsnGlyArgAspTyrAla-388
 399-AlaThrGlyLysThrGlyAlaArgAsnMetProHisThrArgArgValAla-415
 421-ValGluPheGlyAsnGlyTrp-427
 434-SerTyrThrGlySerLysGlnTyrGlyAsnHisSerGly-446

Hydrophilic Regions - Hopp-Woods

1-MetSerAlaArgGlyLysGly-7
 36-IleLysThrAspGly-40
 47-AspSerValGluLysThrAlaGlySerGluGlyAspThr-59
 63-TyrValArgArgGlyAsnAlaAlaArgThrAlaSer-74
 86-HisAlaValGluGlnGlyGlySerAsnLeu-95
 102-LeuAspAlaSerGluSerSerAlaThrProGluThrValGlu-115
 117-AlaValAlaAspArgThrAspMetProGlyIleArgLeuArgArgThrThrPhe-134
 144-AsnThrAlaAspGly-148
 169-AspMetGlnGlyArgArgLeuLysAlaValSerAspGlyLeuAspHisAsnGlyThr-187
 205-GlyGlyValGluGlyLysMetArgGlySerThr-215
 223-LysThrGlyGluAsnThrThr-229
 244-AsnSerAlaAsnAlaLysThrAspSer-252
 259-IleArgHisAspValGlyAsp-265
 277-ArgTyrLysAsnSerIleSerArgSerThrGlyAlaAspGluTyrAlaGlu-293
 323-GlyGlyLeuArgHisAspLeuLys-331
 333-AspAlaPheAlaGluLysGlySer-340
 364-GlnProLeuSerAspLysAlaVal-371
 376-AlaGlyValGluArgAspLeuAsnGlyArgAspTyrAla-388
 399-AlaThrGlyLysThrGlyAlaArgAsnMetProHisThrArgArgValAla-415
g141

AMPHI Regions - AMPHI

12-SerSerThrMetArgProIleGlyGluIle-21
 32-IleGluProTyrGly-36
 44-ProAlaGluAlaPheLysLeuPro-51
 80-AlaAspAlaLeuArgHisIle-86
 131-PheHisAlaIleGlyAla-136
 139-AsnLeuLeuAlaAlaMetLeuAspAsn-147
 174-GlnLeuArgAsnIleIleAspGlyMetGlyLysProValAspGlyValMetArgPro-192
 212-AspIleSerAspLeuLysGluArgPheGly-221

244-AlaMetAlaAlaLeuLeuLysAspAlaIleLysProAsnLeu-257

259-GlnThrIleGluGlyThrPro-265
 272-ProPheAlaAsnIleAlaHisGlyCysAsnSerValThrAlaThrArgLeuAlaLysHisLeuAlaAspTyrAla-296
 330-AlaThrValArgAla-334

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351-LeuGluAlaLeuAlaLysGlyLeuProAsnLeuLeuLysHisIleSerAsnLeuLysAsnValPheGly-37
3
406-SerLeuThrGluValTrpGlyLys-413
420-AspLeuAlaArgLysValValAsnAlaIleAspAsnGln-432
473-IleAlaSerLeuGluLys-478
502-LeuGlyCysProGluGly-507
525-ValAlaLeuCysGlyAsnMetMetLysMetProGlyLeuProLysValProAlaAla-543

Antigenic Index - Jameson-Wolf

3-PheLysThrAspAlaGluThrAlaGlnSerSerThrMetArgProIleGly-19

27-LeuAsnValAspAsnIleGluProTyrGly-36

38-TyrLysAlaLysIleAsnProAlaGluAlaPheLysLeuProGlnLysGlnGlyArg-56
64-AsnProThrProAlaGlyGluGlyLysThrThr-74
81-AspAlaLeuArgHisIleGlyLysAspSerValIleAlaLeuArgGluProSerLeuGlyPro-101
105-ValLysGlyGlyAlaAlaGlyGlyGly-113
151-GlnGlyAsnGluLeuAsnIleAspProLysArgValLeuTrp-164
166-ArgValValAspMetAsnAspArgGlnLeuArgAsnIleIleAspGlyMetGlyLysProValAspGlyVal
MetArgProAspGlyPheAspIle-197
211-LysAspIleSerAspLeuLysGluArgPheGly-221
227-TyrAlaLysAspGlySerProValTyr-235

237-LysAspLeuLysAla-241

251-AspAlaIleLysProAsnLeu-257

287-ArgLeuAlaLysHisLeuAla-293

306-LeuGlyAlaGluLysPheCysAspIleLysCysArgLeuAlaGlyLeuLysProAspAla-325

335-LeuLysTyrAsnGlyGlyValGluArgAlaAsnLeuGlyGluGluAsnLeuGluAlaLeuAla-355

383-PheValSerAspSerAspAlaGluLeuAlaMetIleGluLysAlaCysAla-399

411-TrpGlyLysGlyGlyAlaGlyGlyAlaAspLeuAlaArgLysValValAsn-427

429-IleAspAsnGlnProAsnAsnPhe-436

444-LeuGlyIleLysAspLysIleArgAlaIleAla-454

458-TyrGlyAlaGluAspValAspPheSerAla-467

474-AlaSerLeuGluLysLeuGlyLeuAspLysMetPro-485

494-SerLeuSerAspAsnAlaLysLeu-501

503-GlyCysProGluGlyPhe-508

534-MetProGlyLeuPro-538

541-ProAlaAlaGluLysIleAspValAspGluHisGly-552

Hydrophilic Regions - Hopp-Woods

3-PheLysThrAspAlaGluThrAlaGln-11

38-TyrLysAlaLysIleAsnPro-44

46-GluAlaPheLysLeuProGlnLysGlnGlyArg-56

67-ProAlaGlyGluGlyLysThr-73

81-AspAlaLeuArgHisIleGlyLysAspSerValIleAlaLeuArgGluProSer-98

155-LeuAsnIleAspProLysArgValLeuTrp-164

166-ArgValValAspMetAsnAspArgGlnLeuArgAsnIleIle-179

181-GlyMetGlyLysProValAspGlyValMetArgProAspGlyPhe-195

211-LysAspIleSerAspLeuLysGluArgPheGly-221

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228-AlaLysAspGlySer-232
 237-LysAspLeuLysAla-241
 287-ArgLeuAlaLysHisLeuAla-293
 306-LeuGlyAlaGluLysPheCysAspIleLysCysArgLeuAlaGlyLeuLysProAspAla-325
 339-GlyGlyValGluArgAlaAsnLeuGlyGluGluAsnLeuGluAlaLeuAla-355
 383-PheValSerAspSerAspAlaGluLeuAlaMetIleGluLysAlaCysAla-399

420-AspLeuAlaArgLysValValAsn-427
 444-LeuGlyIleLysAspLysIleArgAlaIleAla-454
 458-TyrGlyAlaGluAspValAspPheSerAla-467

474-AlaSerLeuGluLysLeuGlyLeuAspLysMetPro-485
 541-ProAlaAlaGluLysIleAspValAspGluHisGly-552

g142**AMPHI Regions - AMPHI**

26-ArgPheAlaAlaMetProAsnMetValGlyLys-36
 44-GlyGlnProGlyLysMetPhe-50
 100-AlaValThrProCysArg-105
 107-ValCysArgAspAspMetAsn-113
 118-GlyCysHisArgIleThrGluArgSerLeuLysSerPheLeuGlnIleArgHisPheSerProLeuAsnArg-141

Antigenic Index - Jameson-Wolf

37-ProLeuPheGlyArgGlnAlaGlyGlnProGlyLysMet-49
 60-HisIleAspAlaGluAlaAlaValPheArgGlnAspArgAsnAspSerArgThrPro-78
 83-HisHisGlyArgArgLeuValGlyAsnArgArgAsnArgHisCysAsnAlaValThrProCysArgThrValCysArgAspAspMetAsnAlaCysArgThrGlyCysHisArgIleThrGluArgSerLeuLys-128
 137-SerProLeuAsnArgProLeuTyrLysAsnAlaAlaHisLysAlaSerProHis-154

Hydrophilic Regions - Hopp-Woods

42-GlnAlaGlyGlnPro-46
 60-HisIleAspAlaGluAlaAlaValPheArgGlnAspArgAsnAspSerArgThr-77
 84-HisGlyArgArgLeuValGlyAsnArgArgAsnArgArgHisCys-98
 106-ThrValCysArgAspAspMetAsnAlaCysArg-116
 121-ArgIleThrGluArgSerLeuLys-128
 147-AlaAlaHisLysAlaSerPro-153

g144**AMPHI Regions - AMPHI**

36-LeuGlyGlyIleValGlnGluPhe-43
 45-ValLeuAlaAspGlyVal-50
 58-PheAspAspAlaAlaSer-63
 71-IleAsnLysGlnIleGlyArgValAlaGlyArg-81
 144-TyrArgTyrLeuSerArgHis-150
 170-GlyProAlaArgCysGlySerAlaTyrSerAlaGly-181
 185-SerGlyArgCysArgLysThrAlaArgLeuAsnGlyPheArgArgProArgSer-202

Antigenic Index - Jameson-Wolf

1-MetSerAspThrProAlaThrArgAspPheGlyLeuIleAspGlyArgAla-17
 23-LeuSerAsnArgArgGlyThr-29
 47-AlaAspGlyValArgGluAsnPro-54
 57-SerPheAspAspAlaAlaSerTyrAlaAspAsnProPheGlnIleAsnLysGlnIleGly-76
 78-ValAlaGlyArgIleArgGlyAlaAla-86
 88-AspIleAsnGlyArgThrTyrArgValGluAlaAsnGluGlyArgAsnAlaLeuHisGlyGlySerHis-110
 120-ValAlaAlaAspGlyArgArgLeuSerGlnArg-130
 136-ProLeuGlyArgGlyArgProAlaTyr-144

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146-TyrLeuSerArgHisArgAlaArgArgHisGlyValArgProAspAlaAlaHis-163
 167-AlaGlyArgGlyProAlaArgCysGlySer-176
 179-SerAlaGlyArgThrTyrSerGlyArgCysArgLysThrAlaArgLeuAsnGlyPheArgArgProArgSer
 Ile-203

Hydrophilic Regions - Hopp-Woods

1-MetSerAspThrProAlaThrArgAsp-9
 24-SerAsnArgArgGlyThr-29
 48-AspGlyValArgGluAsnPro-54
 57-SerPheAspAspAlaAlaSer-63
 78-ValAlaGlyArgIleArgGlyAlaAla-86
 89-IleAsnGlyArgThrTyrArgValGluAlaAsnGluGlyArgAsnAlaLeu-105
 121-AlaAlaAspGlyArgArgLeuSerGln-129
 138-GlyArgGlyArgProAla-143
 148-SerArgHisArgAlaArgArgHisGlyValArgProAspAla-161
 168-GlyArgGlyProAlaArgCys-174
 182-ArgThrTyrSerGlyArgCysArgLysThrAlaArg-193
 195-AsnGlyPheArgArgProArgSerIle-203

g146**AMPHI Regions - AMPHI**

20-GlnTyrGlyLeuPheAspPheMetProCys-29
 34-ProLeuAspAsnPheProThrVal-41
 95-LeuArgAlaCysAlaValIle-101
 140-AlaArgArgMetArg-144
 158-ArgHisGlnArgGlyPheAlaArg-165

Antigenic Index - Jameson-Wolf

13-IleAspHisAspLysValGluGln-20
 29-CysLeuArgGlnProProLeuAspAsn-37
 41-ValArgProAlaProPheGluAlaArgGlyLysHisValGluArgArgArgGlnAspLysAspThrAspSerPheArgGlnArgValAlaAsnLeuArgArgAlaLeu-76
 86-AlaCysArgArgGlnArgIleHisAla-94
 112-SerLeuLeuArgAspLysArgPhe-119
 138-ArgArgAlaArgArgMetArgHisGlyAsnAla-148
 155-GlnGlnProArgHisGlnArgGlyPheAla-164
 166-AlaGlySerGlyArgAsnAspLysAspValAlaPheSerIle-179

193-ValSerGlnArgThr-197

Hydrophilic Regions - Hopp-Woods

13-IleAspHisAspLysValGluGln-20
 44-AlaProPheGluAlaArgGlyLysHisValGluArgArgArgGlnAspLysAspThrAspSerPheArgGlnArgValAlaAsnLeuArgArgAlaLeu-76
 86-AlaCysArgArgGlnArgIleHisAla-94
 112-SerLeuLeuArgAspLysArgPhe-119
 138-ArgArgAlaArgArgMetArgHisGlyAsn-147
 156-GlnProArgHisGlnArgGlyPheAla-164
 167-GlySerGlyArgAsnAspLysAspValAla-176

g148**AMPHI Regions - AMPHI**

25-AlaAspLysIleArgLysIleGluAsnTrpPro-35
 49-GlnSerAlaGluTyrPheArgLeuLeuValAspLeu-60

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150-AlaGlyLeuGluLeuIleArgLysLeuGlyGlyGluIle-162
 165-AlaAlaAlaIleLeuGluPheThrAspLeuGlnGlyGlyLysAsnIleArg-181

Antigenic Index - Jameson-Wolf

4-LysThrSerAsnLeu-8
 24-LeuAlaAspLysIleArgLysIleGluAsnTrpProGlnLysGly-38
 66-MetAspGlnLysIleAspIle-72
 76-LeuAspAlaArgGly-80
 97-ProIleArgLysLysGlyLysLeuPro-105
 117-TyrGlyGluAlaAlaVal-122
 124-IleHisThrAspAlaValLysProGlySerArg-134
 153-GluLeuIleArgLysLeuGlyGlyGluIleValGlu-164
 172-ThrAspLeuGlnGlyGlyLysAsnIleArgAlaSerGlyAlaPro-186
 192-GlnAsnGluGlyCysMetLysGly-199

Hydrophilic Regions - Hopp-Woods

24-LeuAlaAspLysIleArgLysIleGluAsnTrpPro-35
 66-MetAspGlnLysIleAspIle-72
 97-ProIleArgLysLysGlyLysLeuPro-105
 117-TyrGlyGluAlaAlaVal-122
 124-IleHisThrAspAlaValLysProGlySer-133
 153-GluLeuIleArgLysLeuGlyGlyGluIleValGlu-164
 178-LysAsnIleArgAlaSerGly-184
 195-GlyCysMetLysGly-199

g149**AMPHI Regions** - AMPHI

72-AsnLeuGlyAspAlaLeuAspGlyValProGlyIle-83
 101-ThrGlyArgArgIleLysValLeuAsnHisHisGlyGluThrGlyAspMet-117
 135-GlnValGluIleLeuArgGlyProValThr-144
 152-ValAlaGlyLeuValAsp-157
 164-ProGluLysMetProGluAsn-170
 184-AsnLeuGluLysLeu-188
 220-TyrArgAsnLeuLysArgLeuProAspSerHis-230
 345-PheProGlyPheGlu-349
 366-AlaGlyAspAlaValGluAsnPhePheAsnAsn-376
 389-ProIleGlyArgLeuLys-394
 411-AlaIleProGluThrVal-416
 472-GlnProLeuProAspLeuGlyAla-479
 565-ArgPheGlyAsnTyrIleTyrAlaGln-573
 576-AsnAspGlyArgGlyProLysSerIleGluAsp-586
 627-ArgGlyArgLeuLysAsnLeuProSer-635
 672-LeuThrAspArgIle-676

Antigenic Index - Jameson-Wolf

25-HisGluThrGluGln-29
 40-GlyLysSerArgProArgAlaThrSerGly-49
 55-ThrAlaSerAspLysIleIleSerGlyAspThrLeuArgGlnLysAla-70
 97-IleArgGlyGlnThrGlyArgArgIleLysVal-107
 109-AsnHisHisGlyGluThrGlyAspMetAlaAspPheSerProAspHis-124
 137-GluIleLeuArgGlyPro-142
 157-AspValAlaAspGlyLysIleProGluLysMetProGluAsnGlyValSerGlyGluAlaGlyLeu-178
 180-LeuSerSerGlyAsnLeuGluLysLeuThrSer-190
 207-GlyLeuTyrArgLysSerGlyAspTyrAlaValProArgTyrArgAsnLeuLysArgLeuProAspSerHis
 AlaAspSerGlnThrGly-236
 244-GlyGluLysGlyPhe-248

-726-

252-AlaTyrSerAspArgArgAspArgTyrGlyLeuProAlaHisSerHisGluTyrAspAspCysHisAla-27
 4
 281-SerLeuIleAsnLysArgTyrLeu-288
 295-LeuThrGluGluAspIleAspTyrAspAsnProGlyLeu-307
 309-CysGlyPheHisAspGlyAspGlyAlaHis-318
 320-HisThrHisAsnGlyLysProTrpIleAspLeuArgAsnLysArgTyrGluLeuArgAlaGluTrpLysGln
 ProPheProGly-347
 354-HisLeuAsnArgAsnAspTyrHisHisAspGluLysAlaGlyAspAlaVal-370
 374-PheAsnAsnLysThrHisAsnAlaArgIleGluLeuArgHisGlnProIleGlyArgLeuLysGlySerTrp
 -397
 402-LeuGlyGlnLysSerSerAla-408
 413-ProGluThrValGln-417
 421-LeuIleAspAsnAsnValArg-427
 437-AlaAsnTrpAspAsnPheThrLeuGluGlyGlyValArgValGluLysGlnLysAlaSerIleArgTyrAsp
 LysAlaLeuIleAspArgGluAsnTyrTyrAsnGlnProLeuProAsp-476
 506-SerHisGlnGluArgLeuProSerThrGlnGluLeuTyrAlaHisGly-521
 531-ValGlyAsnLysHisLeuAsnLysGluArgSerAsnAsnIle-544
 549-GlyTyrGluGlyAspArgTrpGln-556
 562-TyrArgAsnArgPheGlyAsn-568
 574-ThrLeuAsnAspGlyArgGlyProLysSerIleGluAspAspSerGluMetLysLeu-592
 594-ArgTyrAsnGlnSerGlyAlaAspPheTyrGlyAlaGluGly-607
 609-IleTyrPheLysProThrProArgTyrArgIle-619
 621-ValSerGlyAspTyrValArgGlyArgLeuLysAsnLeuProSerLeuProGlyArgGluAspProTyrGly
 LysArgProPhe-648
 651-GlnAlaAspGlnAsnAlaProArgIleProAla-661
 670-ThrSerLeuThrAspArgIleAspAlaAsnLeuAspTyr-682
 689-AsnLysLeuAlaArgTyrGluThrArgThrProGlyHis-701
 707-GlyAlaAsnTyrArgArgAsnThrArgTyrGlyGluTrp-719
 725-AlaAspAsnLeuLeu-729
 739-PheLeuSerAspThrProGlnMetGlyArgSerPheThrGlyGlyVal-754

Hydrophilic Regions - Hopp-Woods

25-HisGluThrGluGln-29
 40-GlyLysSerArgProArgAlaThr-47
 55-ThrAlaSerAspLysIleIleSer-62
 64-AspThrLeuArgGlnLysAla-70
 100-GlnThrGlyArgArgIleLysVal-107
 112-GlyGluThrGlyAspMetAlaAspPheSerPro-122
 157-AspValAlaAspGlyLysIleProGluLysMetProGluAsnGlyValSerGly-174
 181-SerSerGlyAsnLeuGluLysLeuThr-189
 207-GlyLeuTyrArgLysSerGlyAsp-214
 219-ArgTyrArgAsnLeuLysArgLeuProAspSerHisAlaAspSerGlnThr-235
 253-TyrSerAspArgArgAspArgTyrGly-261
 267-HisGluTyrAspAspCysHisAla-274
 295-LeuThrGluGluAspIleAspTyrAspAsn-304
 312-HisAspGlyAspGlyAlaHis-318
 330-LeuArgAsnLysArgTyrGluLeuArgAlaGluTrp-341
 354-HisLeuAsnArgAsnAspTyrHisHisAspGluLysAlaGlyAspAlaVal-370
 377-LysThrHisAsnAlaArgIleGluLeuArgHis-387
 391-GlyArgLeuLysGly-395
 446-GlyGlyValArgValGluLysGlnLysAlaSerIleArgTyrAspLysAlaLeuIleAspArgGluAsnTyr
 -469
 506-SerHisGlnGluArgLeuProSer-513
 535-HisLeuAsnLysGluArgSerAsnAsn-543
 550-TyrGluGlyAspArgTrp-555

-727-

562-TyrArgAsnArgPhe-566
 575-LeuAsnAspGlyArgGlyProLysSerIleGluAspAspSerGluMetLysLeu-592
 603-TyrGlyAlaGluGly-607
 613-ProThrProArgTyrArgIle-619
 624-AspTyrValArgGlyArgLeuLysAsn-632
 637-ProGlyArgGluAspProTyrGlyLys-645
 652-AlaAspGlnAsnAlaProArg-658
 671-SerLeuThrAspArgIleAspAla-678
 690-LysLeuAlaArgTyrGluThrArgThrProGly-700
 709-AsnTyrArgArgAsnThrArgTyrGly-717
g150

AMPHI Regions - AMPHI

60-GlyGluIleLeuAspLeuLeu-66
 87-LeuLeuSerHisPheGlu-92
 100-PheValLysGlyTyrAla-105
 132-IleAlaGlyValLeuHisArgPheProAlaLysLeuThrAla-145
 147-GlnPheAlaGlyLeuLeuArgProLeuAla-156
 235-GlyValAlaProPheArg-240
 272-ThrGluTrpGlnGlnPheAlaLys-279
 304-IleArgGluGlnAla-308
 327-AlaAlaLysMetAlaLysGluValGluAlaAlaLeuLeuAspValIleIleGly-344

Antigenic Index - Jameson-Wolf

2-TerTyrCysLysAlaAspProPhePro-10
 17-GlnLysIleThrAlaArgGlnSerAspLysAspValArgHisIleGluIleAspLeuSerGlySerAspLeu-40
 43-LeuProGlyAspAla-47
 52-PheAspAsnAspProAlaLeuVal-59
 69-AsnProAlaThrGluIleGlnAlaGlyGlyLysThrLeu-81
 93-LeuThrGlnAsnThrProAlaPhe-100
 108-AlaAspAsnAspGluLeuAspArgIleAlaAla-118
 163-SerSerSerGlnAlaGluAlaGlyAspGluValHis-174
 181-ArgPheGluHisGluGlyArgAlaArgAlaGlyGlyAlaSerGlyPhePhe-197
 199-AspArgLeuGluGluAspGlyThrVal-207
 210-PheAlaGluArgAsnAspGlyPheArgLeuProGluAspSerArgLysPro-226
 231-GlySerGlyThrGly-235
 245-GlnArgAlaAlaGluAsnAlaGluGlyArgAsn-255
 276-GlnPheAlaLysAspGlyPheLeuHisArgTyrAspPheAlaTrpSerArgAspGlnGluGluLysIleTyrVal-300
 302-AspLysIleArgGluGlnAlaGlu-309
 326-AspAlaAlaLysMetAlaLysGluValGlu-335
 345-AlaGlyHisSerAspGluAspGlyAlaGluGlyTyr-356
 359-MetLeuArgGluGluLysArgTyrGlnArgAspValTyr-371

Hydrophilic Regions - Hopp-Woods

18-LysIleThrAlaArgGlnSerAspLysAspValArgHisIleGluIleAspLeuSerGly-37
 72-ThrGluIleGlnAlaGlyGlyLys-79
 108-AlaAspAsnAspGluLeuAspArgIleAlaAla-118
 165-SerGlnAlaGluAlaGlyAspGluValHis-174
 181-ArgPheGluHisGluGlyArgAlaArgAlaGlyGly-192
 199-AspArgLeuGluGluAspGlyThrVal-207
 210-PheAlaGluArgAsnAspGlyPheArgLeuProGluAspSerArgLysPro-226
 246-ArgAlaAlaGluAsnAlaGluGlyArg-254
 290-TrpSerArgAspGlnGluGluLysIleTyrVal-300
 302-AspLysIleArgGluGlnAlaGlu-309

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326-AspAlaAlaLysMetAlaLysGluValGlu-335
 346-GlyHisSerAspGluAspGlyAlaGluGlyTyr-356
 359-MetLeuArgGluGluLysArgTyrGlnArgAspValTyr-371
g151
AMPHI Regions - AMPHI
 6-AsnIleAlaIleIleAla-11
 22-AspGlnLeuLeuArg-26
 73-AspThrProGlyHis-77
 81-GlyGlyGluValGluArgValLeuGlyMetValAspCysVal-94
 128-LysIleAspLysPro-132
 144-PheGluLeuPheAspAsnLeuGlyAlaThr-153
 165-SerGlyLeuSerGlyPheAlaLysLeuGluGluThrAspGlu-178
 182-MetArgProLeuPheAspThrIleLeuLysTyrThr-193
 248-GlyArgIleAsnGlnLeuLeuGlyPheLysGlyLeuGluArgVal-262
 273-ValIleIleSerGlyIleGlu-279
 330-IleArgAspArgLeuGlnLysGluLeu-338
 348-AspThrAlaAspAla-352
 396-CysGluProTyrGluAsnLeuThrValAsp-405
 457-LeuThrArgGlyValGly-462
 464-MetSerHisValPheAsp-469
 537-LysGlyLysLysLeuThrAsnIle-544
 551-GluAlaValArgLeuThrThr-557

Antigenic Index - Jameson-Wolf

1-MetLysGlnIleArg-5
 13-ValAspHisGlyLysThrThrLeu-20
 24-LeuLeuArgGlnSerGlyThrPheArgAlaAsnGlnGlnValAspGluArgValMetAspSerAsnAspLeuGluLysArgGlyIle-53
 59-AsnThrAlaIleAspTyrGluGlyCysHis-68
 72-ValAspThrProGlyHisAlaAspPheGlyGlyGluValGluArg-86
 99-AspAlaGlnGluGlyProMetProGlnThrArgPheValThr-112
 128-LysIleAspLysProSerAlaArgProSerTrp-138
 151-GlyAlaThrAspGluGlnLeuAsp-158
 171-AlaLysLeuGluGluThrAspGluSerSerAspMetArgProLeu-185
 193-ThrProAlaProSerGlySerAlaAspGluProLeu-204
 211-LeuAspTyrAspAsnTyrThrGly-218
 226-LeuAsnGlyArgIleLysProGlyGln-234
 241-HisGluGlnGlnIleAla-246
 257-LysGlyLeuGluArgValProLeuGluGluAlaGluAlaGlyAsp-271
 277-GlyIleGluAspIleGly-282
 287-IleThrAspLysAspAsnProLysGlyLeuPro-297
 300-SerValAspGluProThrLeu-306
 314-ThrSerProLeuAlaGlyThrGluGlyLysPheValThrSerArgGlnIleArgAspArgLeuGlnLysGluLeuLeu-339
 344-LeuArgValGluAspThrAlaAspAlaAspValPheArgValSerGlyArgGlyGluLeu-363
 371-AsnMetArgArgGluGlyTyr-377
 381-ValGlyLysProArgValValTyrArgAspIleAspGlyGlnLysCysGluProTyrGluAsnLeuThrValAspValProAspAspAsnGlnGlyAlaValMetGluGluLeuGlyArgArgArgGlyGluLeuThrAsnMetGluSerAspGlyAsnGlyArgThrArgLeuGluTyr-440
 467-ValPheAspAspTyrAlaProValLysProAspMetProGlyArgHisAsnGly-484
 489-GlnGluGlnGlyGlu-493
 501-AsnLeuGluAspArgGlyArgMetPheValSerProAsnAspLysIleTyr-517
 524-IleHisSerArgAspAsnAspLeu-531
 535-ProLeuLysGlyLysLysLeuThrAsnIleArgAlaSerGlyThrAspGluAlaValArg-554
 569-PheIleAspAspAspGluLeuValGlu-577

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579-ThrProGlnSerIleArgLeuArgMet-587
 591-SerGluLeuGluArgArgArgHisPheLysLysLeuAsp-603

Hydrophilic Regions - Hopp-Woods

1-MetLysGlnIleArg-5
 29-GlyThrPheArgAla-33
 35-GlnGlnValAspGluArgValMetAspSerAsnAspLeuGluLysGluArgGlyIle-53
 60-ThrAlaIleAspTyrGluGly-66
 80-PheGlyGlyGluValGluArg-86
 99-AspAlaGlnGluGlyProMetPro-106
 128-LysIleAspLysProSerAla-134
 151-GlyAlaThrAspGluGlnLeuAsp-158
 171-AlaLysLeuGluGluThrAspGluSerSerAspMetArgProLeu-185
 198-GlySerAlaAspGluProLeu-204
 226-LeuAsnGlyArgIleLysPro-232
 241-HisGluGlnGlnIleAla-246
 258-GlyLeuGluArgValProLeuGluGluAlaGluAlaGlyAsp-271
 277-GlyIleGluAspIleGly-282
 287-IleThrAspLysAspAsnProLysGly-295
 300-SerValAspGluProThrLeu-306
 318-AlaGlyThrGluGlyLysPheValThr-326
 328-ArgGlnIleArgAspArgLeuGlnLysGluLeuLeu-339
 344-LeuArgValGluAspThrAlaAspAlaAspValPheArgValSerGlyArgGlyGluLeu-363
 371-AsnMetArgArgGluGlyTyr-377
 381-ValGlyLysProArgValValTyrArgAspIleAspGlyGlnLysCysGluProTyrGlu-400
 405-AspValProAspAspAsnGlnGlyAlaValMetGluGluLeuGlyArgArgGlyGluLeuThrAsnMet
 GluSerAspGlyAsnGlyArgThrArgLeu-438
 472-AlaProValLysProAspMetProGlyArgHis-482
 489-GlnGluGlnGlyGlu-493
 502-LeuGluAspArgGlyArgMet-508
 512-ProAsnAspLysIleTyr-517
 525-HisSerArgAspAsnAspLeu-531
 536-LeuLysGlyLysLysLeuThrAsn-543
 545-ArgAlaSerGlyThrAspGluAlaValArg-554
 569-PheIleAspAspAspGluLeuValGlu-577
 583-IleArgLeuArgMet-587
 591-SerGluLeuGluArgArgArgHisPheLysLysLeuAsp-603

g152**AMPHI Regions - AMPHI**

10-PheProThrArgLeuPhe-15
 66-ArgPheSerArgPheValArgGlyTrpAlaGlyIleArgGlyTyrLeuLysAsnGlyIleProGluHisIleG
 lnProGlyHisAsnProLeu-96
 103-AlaLeuLeuAlaAla-107
 130-LeuAsnHisLeuValSerGluHisThrGlySerLeu-141
 150-PheLysLeuLeuAlaValPheSerAlaValHisIleAlaAlaValAlaAlaTyr-167
 177-ArgProMetIleThr-181

Antigenic Index - Jameson-Wolf

1-MetLysAsnLysThrLysValTrp-8
 29-SerAlaLysAlaGlyGlyAsp-35
 61-GlySerAspThrAlaArgPhe-67
 79-GlyTyrLeuLysAsnGlyIleProGluHisIleGlnProGlyHisAsnProLeu-96
 119-AlaAsnGluAsnThrPheSerThrAsnGlyTyr-129
 137-HisThrGlySerLeuIleArg-143
 169-IlePheLysLysLysAsnLeuVal-176

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186-IleGluGlyLysThrSerIle-192

Hydrophilic Regions - Hopp-Woods

1-MetLysAsnLysThrLysVal-7
 63-AspThrAlaArgPhe-67
 169-IlePheLysLysLysAsnLeuVal-176
 186-IleGluGlyLysThrSerIle-192

g153**AMPHI Regions - AMPHI**

17-AlaAlaSerValLeuSerLeuProGluMetMetArgLeuMetValPhe-32
 96-ThrLeuValAlaTyrIleLysLeuSerSerValAlaLys-108
 130-ValSerValProGlnHisTrp-136
 224-ThrIlePheSerGlyIleAlaTyr-231
 274-AlaLysLysLeuSerHisLeuTyrArgIleThrGluAlaValGlyArgTrpSerMetIleAspIlePheVal
 Ile-298

Antigenic Index - Jameson-Wolf

65-IleArgLysGlnAla-69
 81-ValArgLeuArgGln-85
 143-ArgLeuThrGlyAsnAsnAla-149
 151-GlnThrAlaSerGluGlyLysThrCysCysSer-161
 165-TyrPheArgAspSerAlaGluSerProCysGly-175
 181-LeuTyrGlyGlyArgProLysSerLeuSer-190
 215-SerAsnProAlaAlaThrGlu-221
 234-AspGluGlyAspArgLeu-239
 272-AlaGlyAlaLysLysLeu-277
 339-LeuLeuTrpAspLysArgAlaSerAspGlyIleAla-350
 352-AsnGluThrGluLysTyrAsp-358

Hydrophilic Regions - Hopp-Woods

81-ValArgLeuArgGln-85
 152-ThrAlaSerGluGlyLysThrCysCys-160
 168-AspSerAlaGluSerPro-173
 182-TyrGlyGlyArgProLysSerLeuSer-190
 234-AspGluGlyAspArgLeu-239
 273-GlyAlaLysLysLeu-277
 339-LeuLeuTrpAspLysArgAlaSerAsp-347
 352-AsnGluThrGluLysTyrAsp-358

g154**AMPHI Regions - AMPHI**

122-GlyValThrGlyLeuGlyThrLeuLeu-130
 152-GlnAspIleProProValThr-158
 262-ThrLysAsnSerLysAsnValLysSer-270
 298-PheLysGlnSerVal-302
 360-SerLysGluHisTrpLysGlnGlnPheGlnThrAlaLeuAsnLysGlyLeuThrAla-378
 389-GlyLysMetIleGluLeuAsnAsp-396
 429-LysLeuAlaAspLeuLeuAspLysPheAsnAsnLeuPro-441
 446-ValAlaGluLeuAsnGly-451
 467-LeuSerSerIleAspLysLeuValGlyAsnProGlnThrGlnAsnIleProAsnGluLeuAsnGlnThr-48
 9
 506-IleTyrGlyAspValGlnAsnThrLeuGlnSerLeuAspLysThrLeuLysAspValGlnProValIleAsn
 ThrLeuLysGluLys-534

Antigenic Index - Jameson-Wolf

1-MetThrAspAsnSerProProProAsnGlyHisAlaGlnAlaArgValArgLysAsnAsnThr-21

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43-LysGluIleArgAsnArgGlyProVal-51
 57-AspSerAlaGluGlyIleGluValAsnAsnThr-67
 75-AspValGlyArgValThrArgIleLysLeuArgAspGlnLysGlyValGlu-92
 100-AspValSerGlyLeuIleArgSerAspThrGln-110
 114-ValLysProArgIleAspGlnSerGly-122
 138-ThrProGlyLysSerGlyGluAlaLysAspValPheGln-150
 169-LeuIleGlyLysAsnAspArgIleLeuAsn-178
 196-AlaHisPheAspProSerAspGlnSer-204
 212-GlnSerProAsnAspLysLeuIle-219
 227-LeuGluSerGlyIleAsnIleGluThrThrGlySerGlyIleLysLeuAsnSer-244
 256-SerPheAspSerProLysThrLysAsnSerLysAsnValLysSerGluAspSer-273
 275-ThrLeuTyrAspSerArgSerGluIleAlaAsnLeuProAspAspArgSerLeu-292
 300-GlnSerValArgGlyLeu-305
 311-ValGluTyrLysGlyLeuAsnVal-318
 325-ProTyrPheAspArgAsnAspSer-332
 345-IleArgIleGluProSerArgLeuGluIleAsnAlaAspGluGlnSerLysGluHisTrpLysGlnGlnPhe-368
 371-AlaLeuAsnLysGlyLeu-376
 386-LeuThrGlyGlyLysMetIleGluLeuAsnAspGlnProSerAlaSerProLysLeuArgPro-406
 416-IleAlaThrArgGlyGlyGlyLeuAspAspLeuGlnValLysLeu-430
 432-AspLeuLeuAspLysPheAsnAsnLeuProLeuAspLysThrValAla-447
 450-AsnGlySerLeuAlaGluLeuLysSerAlaLeuLysSerAlaAsn-464
 469-SerIleAspLysLeuValGlyAsnProGlnThrGlnAsnIleProAsnGluLeuAsnGlnThrLeuLysGluLeuArgIle-495
 500-ValSerProGlnSer-504
 516-SerLeuAspLysThrLeuLysAspValGln-525
 530-ThrLeuLysGluLysProAsnAla-537
 541-AsnAsnSerSerLysAspProIleProLysGlySerArg-553

Hydrophilic Regions - Hopp-Woods

1-MetThrAspAsnSerProProPro-8
 12-AlaGlnAlaArgValArgLysAsnAsn-20
 43-LysGluIleArgAsnArgGly-49
 57-AspSerAlaGluGlyIleGlu-63
 75-AspValGlyArgValThrArgIleLysLeuArgAspAspGlnLysGlyValGlu-92
 105-IleArgSerAspThr-109
 116-ProArgIleAspGln-120
 140-GlyLysSerGlyGluAlaLysAspValPheGln-150
 171-GlyLysAsnAspArgIleLeu-177
 196-AlaHisPheAspProSerAspGln-203
 214-ProAsnAspLysLeuIle-219
 258-AspSerProLysThrLysAsnSerLysAsnValLysSerGluAspSer-273
 278-AspSerArgSerGluIle-283
 285-AsnLeuProAspAspArgSer-291
 311-ValGluTyrLysGly-315
 328-AspArgAsnAspSer-332
 345-IleArgIleGluProSerArgLeuGluIleAsnAlaAspGluGlnSerLysGluHisTrpLys-365
 390-LysMetIleGluLeuAsnAspGlnProSerAlaSerProLysLeuArgPro-406
 419-ArgGlyGlyGlyLeuAspAspLeuGlnValLysLeu-430
 432-AspLeuLeuAspLysPheAsn-438
 441-ProLeuAspLysThrValAla-447
 454-AlaGluLeuLysSerAlaLeuLysSerAlaAsn-464
 469-SerIleAspLysLeuValGly-475
 482-IleProAsnGluLeu-486
 488-GlnThrLeuLysGluLeuArgIle-495

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516-SerLeuAspLysThrLeuLysAspValGln-525
 530-ThrLeuLysGluLysProAsn-536
 543-SerSerLysAspProIleProLysGlySerArg-553
g155
AMPHI Regions - AMPHI
 28-LysLeuGlyPheGlu-32
 42-AlaAlaSerLeuAsp-46
 105-LeuArgAlaLysLysVal-110
 118-ValProArgIleSerArgAlaGlnAlaLeuAspAlaLeuSerSerMetAlaAsnIleSerGlyTyrArgAla
 ValIleGluAlaAlaAsnAlaPheGlyArgPhePheThrGly-155
 175-ValAlaGlyLeuAlaAlaIleGlyThrAlaAsnSerLeuGlyAlaValValArgAlaPhe-194
 201-AlaGluGlnIleGluSerMetGlyGly-209
 225-AspGlyTyrAlaLysValMet-231
 262-LysProAlaProLysLeuIleThrLysGluMetValGluSerMetLys-277
 294-LeuThrArgProGlyGlu-299
 307-ValLysIleIleGlyTyrThrAspMetAlaAsnArgLeuAlaGlyGln-322
 329-ThrAsnLeuValAsnLeuThrLysLeuLeuSer-339
 403-LysLeuAlaProAlaAlaIle-409
 427-AsnHisPheIleVal-431
 450-LeuHisThrProLeuMetSerValThrAsnAlaIleSerGlyIleMet-465
 468-GlyAlaLeuLeuGln-472
 477-AsnGlyPheValSerLeuLeuSerPheValAla-487
 493-IleAsnIlePheGlyGly-498

Antigenic Index - Jameson-Wolf

4-GlyIleProArgGluSerLeuSerGlyGluThrArgVal-16
 44-SerLeuAspAspAlaAla-49
 72-ValAsnAlaProSerGluGlyGluLeuProLeuLeuLysGluGlyGln-87
 94-TrpProArgGlnAsnGluAlaLeu-101
 105-LeuArgAlaLysLysValAsn-111
 117-MetValProArgIleSerArg-123
 159-AlaAlaGlyLysValProProAla-166
 194-PheAspThrArgLeuGluValAlaGluGlnIleGluSerMetGlyGlyLys-210

216-PheLeuGlnGluSerGlyGlySerGlyAspGlyTyrAla-228

242-LeuPheAlaGluGlnAlaLysGluValAsp-251
 259-IleProGlyLysProAlaProLysLeuIleThr-269

271-GluMetValGluSerMetLysSerGlySer-280
 289-GlyGlyAsnCysGluLeuThrArgProGlyGluLeuSerVal-302

319-LeuAlaGlyGlnSerSer-324
 337-LeuLeuSerProAsnLysAspGlyGluIle-346

348-LeuAspPheGluAspValIle-354
 359-ThrValThrArgAspGlyGluIleThrPhePro-369

376-SerAlaArgProGlnGlnThrProSerGluLysAlaAlaProAlaAlaLysProGluProLysPro-397

Hydrophilic Regions - Hopp-Woods

4-GlyIleProArgGluSerLeuSerGlyGluThrArgVal-16
 44-SerLeuAspAspAlaAla-49
 74-AlaProSerGluGlyGluLeuProLeuLeuLysGluGlyGln-87

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96-ArgGlnAsnGluAlaLeu-101
 105-LeuArgAlaLysLysValAsn-111
 117-MetValProArgIleSerArg-123
 194-PheAspThrArgLeuGluValAlaGluGlnIleGluSerMetGly-208
 220-SerGlyGlySerGlyAspGlyTyrAla-228
 242-LeuPheAlaGluGlnAlaLysGluValAsp-251
 260-ProGlyLysProAlaPro-265
 271-GluMetValGluSerMetLysSer-278
 290-GlyAsnCysGluLeuThrArgProGlyGlu-299
 339-SerProAsnLysAspGlyGluIle-346
 348-LeuAspPheGluAspValIle-354
 359-ThrValThrArgAspGlyGluIle-366
 377-AlaArgProGlnGlnThrProSerGluLysAlaAlaProAlaAlaLysProGluProLysPro-397
g156

AMPHI Regions - AMPHI

56-AsnGlyPheGluAlaPheAlaProPhe-64
 80-AlaThrValAsnThr-84

Antigenic Index - Jameson-Wolf

21-TyrAlaLysLysAlaGlyGlyPheArgPheLysAspAsnHisAsnProArgGly-38
 44-GlnGlyAlaAlaAla-48
 51-HisAlaAlaGlnGlnAsnGlyPheGlu-59
 73-AlaThrGlyAsnAlaGlyGln-79
 103-AspLysAlaAlaLeu-107

Hydrophilic Regions - Hopp-Woods

21-TyrAlaLysLysAlaGlyGlyPheArgPheLysAspAsnHisAsnPro-36
 103-AspLysAlaAlaLeu-107
g157

AMPHI Regions - AMPHI

21-GlyArgAspValArgAlaAla-27
 29-AlaIleLysIleAsnArgLeuLeuLysArgTyrIleLysArgGly-43
 57-ArgLeuGlyGlyPheValArgAlaAlaGln-66
 137-LeuGlyGlnAlaGlyGly-142
 167-GlnLeuValAspArgLeuProArgGluAla-176

Antigenic Index - Jameson-Wolf

1-MetArgAsnGluGluLysArgAlaLeuArgArgGluLeuArgGlyArgArgSerGlnMetGlyArgAspValArgAla-26
 34-ArgLeuLeuLysArgTyrIleLysArgGlyArgLysIle-46
 51-ProMetGlyLysGluLeuArg-57
 64-AlaAlaGlnLysArgGlyAlaLysLeu-72
 77-IleGluProHisThrArgArgMetTrp-85
 87-ThrProTyrProGluArgGlyMetGluArgGluArgLysArgGlyArgAlaLysLeu-105
 110-PheAlaGlyArgLysIleArgVal-117
 129-GlyIleAspArgGluGlyTyrArgLeuGlyGln-139
 151-MetLysTyrArgLeuGlnAla-157
 168-LeuValAspArgLeuProArgGluAlaHisAspLeuProLeu-181

Hydrophilic Regions - Hopp-Woods

1-MetArgAsnGluGluLysArgAlaLeuArgArgGluLeuArgGlyArgArgSerGlnMetGlyArgAspValArgAla-26
 34-ArgLeuLeuLysArgTyrIleLysArgGlyArgLysIle-46

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64-AlaAlaGlnLysArgGlyAla-70
 89-TyrProGluArgGlyMetGluArgGluArgLysArgGlyArgAlaLysLeu-105
 111-AlaGlyArgLysIleArgVal-117
 129-GlyIleAspArgGluGlyTyrArg-136
 151-MetLysTyrArgLeuGlnAla-157
 168-LeuValAspArgLeuProArgGluAlaHisAspLeuPro-180

g158**AMPHI Regions - AMPHI**

20-PheSerArgAlaAlaGluGlnLeuGlu-28
 33-AlaValSerArgIleValLysArgLeuGlu-42
 46-GlyValAsnLeuLeuAsnArgThrThrArgGlnLeuAsn-58
 63-GlyAlaGlnTyrPheArgArgAlaGlnArgIleLeuGlnGlu-76
 85-LeuAlaValHisGluValProGln-92
 160-PheAspSerHisPheArgValValAlaSerPro-170
 178-ThrProGlnSerAlaGluAspLeu-185
 188-HisGlnCysLeuGlyPheThrGluProGlySerLeuAsnThrTrpAlaVal-204
 287-AspPheLeuValLysGluLeuGlyLysAsnMetAsnArgThrAsnThr-302

Antigenic Index - Jameson-Wolf

1-MetLysThrAsnSerGluGluLeu-8
 16-GluSerGlySerPheSerArgAlaAlaGluGlnLeuGluMetAlaAsn-31
 36-ArgIleValLysArgLeuGluGluLysLeuGly-46
 49-LeuLeuAsnArgThrThrArgGlnLeuAsnLeuThrGluGluGlyAlaGlnTyrPheArgArgAlaGlnArgIleLeuGln-75
 78-AlaAlaAlaGluThrGluMet-84

95-LeuArgValAspSer-99
 114-LysPheAsnGluArgTyrProHisIleArg-123
 136-IleGluArgLysValAspIle-142
 144-LeuArgAlaGlyGluLeuAspAspSerGlyLeuArgAla-156

168-AlaSerProGluTyrLeuAla-174

176-HisGlyThrProGlnSerAlaGluAspLeuAla-186
 192-GlyPheThrGluProGlySerLeuAsn-200
 207-AlaGlnGlyAsnProTyrLysIle-214

216-ProHisPheThrAlaSerSerGlyGluIleLeu-226
 229-LeuCysLeuSerSerCysGly-235
 243-LeuValAspAsnAspIleThrGluGlyLysLeu-253
 258-AlaGluGlnThrSerAsnLysThrHisProPhe-268
 273-TyrSerAspLysAlaValAsnLeu-280
 292-GluLeuGlyLysAsnMetAsnArgThrAsnThrLys-303

Hydrophilic Regions - Hopp-Woods

1-MetLysThrAsnSerGluGluLeu-8
 19-SerPheSerArgAlaAlaGluGlnLeuGluMet-29
 36-ArgIleValLysArgLeuGluGluLysLeuGly-46
 58-AsnLeuThrGluGluGlyAlaGlnTyrPheArgArgAlaGlnArgIleLeuGln-75
 78-AlaAlaAlaGluThrGluMet-84

95-LeuArgValAspSer-99

-735-

114-LysPheAsnGluArgTyrPro-120
 136-IleGluArgLysValAspIle-142
 144-LeuArgAlaGlyGluLeuAspSerGlyLeuArgAla-156

180-GlnSerAlaGluAspLeuAla-186
 246-AsnAspIleThrGluGlyLysLeu-253
 260-GlnThrSerAsnLysThrHis-266
 276-LysAlaValAsnLeu-280
 292-GluLeuGlyLysAsnMetAsnArgThrAsnThrLys-303
g160

AMPHI Regions - AMPHI

6-LysLeuValAspLeuAlaGlnLeuThrGly-15
 27-TrpHisGluThrLeu-31
 69-GlyLeuGlyHisVal-73
 97-LysGlnCysGlyAsn-101
 118-AlaAspLeuMetAsnGlyLeuProGluThr-127
 154-GlyThrValSerValValAsnAlaLeuProSer-164
 183-LeuSerGlyValLeuLysGlyTrpGlnAspLysArg-194
 197-HisLeuIleGlnLysValIleAspLysProGlu-207
 216-ValAlaAlaAlaAsn-220
 226-LeuMetArgArgPheLysSer-232
 239-HisAlaPheValAsnHisIleArg-246
 276-PheGlyLysAlaPheLys-281

Antigenic Index - Jameson-Wolf

2-AspIleLeuAspLysLeuValAsp-9
 13-LeuThrGlySerAlaAspVal-19
 30-ThrLeuGlnArgGluGlyLeu-36
 49-IleAspGlyGluThrSerProArgProValGlyThrGlyAsp-62
 74-LeuSerHisAspGlyLysTyrGlyGluSerLeuGlnProAspIleArgGlnAsnGlyThrPhe-94
 98-GlnCysHisAsnGlyLeu-103
 112-PheArgTyrAspThrHisAla-118
 120-LeuMetAsnGlyLeu-124
 146-LeuGluSerGluLysProLeu-152
 175-LeuGluGlnAspLysAspValGluLeu-183
 189-GlyTrpGlnAspLysArgLeuGly-196
 202-ValIleAspLysProGluAspGluTrpAsnIleAspLysMetVal-216
 225-GlnLeuMetArgArgPheLysSerGlnVal-234
 252-LeuLeuLeuLysLysThrProAspSerValLeu-262
 271-GlnSerGluThrHisPhe-276
 278-LysAlaPheLysArg-282
 287-SerProGlyGlnTyrArgLysGluGlyGlnLys-298

Hydrophilic Regions - Hopp-Woods

2-AspIleLeuAspLysLeuValAsp-9
 30-ThrLeuGlnArgGluGlyLeu-36
 50-AspGlyGluThrSerProArgProValGly-59
 76-HisAspGlyLysTyrGlyGlu-82
 84-LeuGlnProAspIleArgGln-90
 146-LeuGluSerGluLysProLeu-152
 175-LeuGluGlnAspLysAspValGluLeu-183

190-TrpGlnAspLysArgLeuGly-196

-736-

202-Val IleAspLysProGluAspGluTrpAsnIle-212
 225-GlnLeuMetArgArgPheLysSer-232
 255-LysLysThrProAspSerValLeu-262
 278-LysAlaPheLysArg-282
 290-GlnTyrArgLysGluGlyGlyGlnLys-298
g163
AMPHI Regions - AMPHI
 60-SerGlyLeuGlyAsnIle-65
 67-LeuGlyArgAspGluAsp-72
 76-PheGlyPheLeuSerTrpLeuAlaMetLeuPhe-86
 100-AlaGluProLeuMetHisTyrPheSerAspIle-110
 170-IleSerGlyArgPheGlyAspAlaIleAspIleMetAlaLeuLeuAlaThrPhePheGlyIleIleThrThr-193
 227-MetSerLeuAlaValValSerAlaIleSerGlyValGlyLysGlyValLysValLeuSer-246
 272-AlaPheGlyAspAsnIleGlyAsnTyrLeuGlyAsnLeuValArg-286
 313-TrpCysSerTrpAlaProPheValGlyLeuPheIleAla-325
 346-LeuPheGlyValLeuTrpPhe-352
 367-AlaGlyGlyMetLeuGluLysMetThrSerSer-377
 380-ThrLeuLeuPheLysPhePheAsnTyrLeuProLeuProGluLeuThrSerIleValSerLeuLeu-401
 438-TrpGlyValLeuMetSerAla-444
 454-GlyLeuGlyAsnLeuGlnSerMetThrLeu-463
 510-ArgLeuValArgIleMetSer-516
 520-GluGlnAspIleLeuLysPheLeuLysHisThrAla-531
 535-MetHisGluLeuGlnArgGluLeu-542
 574-AspPheMetTyrGlyIle-579
 583-GlyGlnAspValSerAspGlnLeu-590
 630-AlaAspIleLeuLysAsnTyr-636

Antigenic Index - Jameson-Wolf

29-AspArgAlaLysGlu-33
 65-IleArgLeuGlyArgAspGluAspValPro-74
 114-AlaProGluHisArgGlnGln-120
 166-LeuLysGluLysIleSerGlyArgPheGlyAspAlaIleAsp-179
 200-GlnLeuGlyAlaGlyLeu-205
 237-GlyValGlyLysGlyValLysVal-244
 293-AlaTyrGluArgGluHisLysProTrpPhe-302
 326-ArgIleSerLysGlyArgThrIleArg-334
 370-MetLeuGluLysMetThrSerSerProGlu-379
 409-ThrSerAlaAspSerGlyIle-415
 421-IleThrSerArgAspLysGlyLeuSerAlaProArgTrp-433
 451-ArgSerGlyGlyLeuGlyAsn-457
 484-LeuSerAlaAspLysLysTyrPheGluThrArgValAsnProThrSer-499
 503-ThrGlyGlyLysTrpLysGluArgLeuVal-512
 516-SerGlnThrGlnGluGlnAspIle-523
 537-GluLeuGlnArgGluLeuSerGluGluTyrGlyLeu-548
 550-ValArgValAspLysMetPheHisGlnAspGluProAla-562
 566-ValIleArgLysGluThrMetArg-573
 581-SerValGlyGlnAspValSerAspGlnLeuIleAsnAspGlyLysLeuProHisIleArgHisGlnThrThrTyrLysProTyr-608
 612-PheAspGlyArgValGlyTyr-618
 622-TyrMetAsnLysAspGluLeuIle-629
 632-IleLeuLysAsnTyrGlu-637
 654-GluGlnValGluLeuAlaGlu-660

Hydrophilic Regions - Hopp-Woods

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29-AspArgAlaLysGlu-33
 66-ArgLeuGlyArgAspGluAspValPro-74
 114-AlaProGluHisArgGlnGln-120
 166-LeuLysGluLysIleSerGlyArgPheGlyAsp-176
 238-ValGlyLysGlyValLysVal-244
 293-AlaTyrGluArgGluHisLysPro-300
 327-IleSerLysGlyArgThrIleArg-334
 370-MetLeuGluLysMetThrSerSerPro-378
 422-ThrSerArgAspLysGlyLeuSer-429
 484-LeuSerAlaAspLysLysTyrPheGlu-492
 506-LysTrpLysGluArgLeuVal-512
 516-SerGlnThrGlnGluGlnAspIle-523
 537-GluLeuGlnArgGluLeuSerGluGluTyrGlyLeu-548
 550-ValArgValAspLysMetPheHisGlnAspGluProAla-562
 566-ValIleArgLysGluThrMetArg-573
 581-SerValGlyGlnAspValSerAsp-588
 590-LeuIleAsnAspGlyLysLeuProHis-598
 622-TyrMetAsnLysAspGluLeuIle-629
 654-GluGlnValGluLeuAlaGlu-660

g164**AMPHI Regions - AMPHI**

12-TyrIleLeuAsnAspCys-17
 28-LeuSerLysGluLeuAlaGlyLeuLysAla-37
 62-PhePheGluAsnValArgArgPheProGlu-71
 75-LeuGlyArgGlnProArgIleAsnAspLeuAlaHis-86
 104-TyrAlaAsnLeuPheAlaAsnLeuAsnGlyIleGluArgIlePheLys-119
 179-ValProAlaIleTyrThr-184
 197-TrpPheAsnArgIle-201
 226-AlaLysLeuLeuGluGlyTyrGlyLeuSer-235
 277-GluValGlyGluLeuIle-282
 289-MetArgGlyTyrLeuAsn-294
 302-ThrIleValAsnGlyTrpLeuLys-309
 339-ValTyrProArgGluIleGluGluGlu-347
 349-HisLysLeuAspAlaValGluAlaAlaAla-358
 374-PheValGlnLeuLysGluGlyMet-381
 387-GluIleArgArgHisLeuArgThrVal-395
 399-PheLysIleProLysGln-404
 414-AsnAlaThrGlyLysValLeuLysArgValLeuLysGluGlnPheGluGlyAsn-431

Antigenic Index - Jameson-Wolf

5-LeuLysAsnSerGlu-9
 15-AsnAspCysLysAla-19
 27-GlyLeuSerLysGluLeuAlaGly-34
 37-AlaGlnThrProValGlu-42
 45-IleTrpThrAspLysSerArgProAlaGlyGluThrAlaGluGly-59
 65-AsnValArgArgPheProGluLysProAspLeuGlyArgGlnProArgIleAsnAsp-83
 90-ThrSerGlyThrThrGlyHisProLysGlyAla-100
 112-AsnGlyIleGluArgIlePheLysIleSerLysArgAspArgPhe-126
 205-IleSerGlyGlyAlaProLeuAla-212
 219-PheLysAlaLysPheProArg-225
 230-GluGlyTyrGlyLeuSerGluAlaSer-238
 245-ThrProGluArgGlnLysAlaArgSerVal-254
 258-LeuProGlyLeuGluAlaLysAlaValAspGluGluLeuValGluValProArgGlyGluValGly-279
 282-IleValArgGlyGlySerValMet-289
 297-AlaAlaThrAspGluThrIle-303

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306-GlyTrpLeuLysThrGlyAsp-312
 315-ThrIleAspGluAspGly-320
 325-ValAspArgLysLysAspLeuIleIleSerLysGlyGlnAsnValTyrProArgGluIleGluGluGluIle
 HisLys-350
 361-GlyValLysAspArgTyrAlaAspGluGluIle-371
 377-LeuLysGluGlyMetAspLeuGlyGluAspGluIleArgArgHisLeu-392
 405-IleHisPheLysAspGlyLeuProArgAsnAlaThrGlyLysValLeuLysArgValLeuLysGluGlnPhe
 GluGlyAsnLys-432

Hydrophilic Regions - Hopp-Woods

27-GlyLeuSerLysGluLeuAlaGly-34
 48-AspLysSerArgProAlaGlyGluThrAlaGluGly-59
 65-AsnValArgArgPheProGluLysProAspLeuGlyArgGlnProArgIleAsnAsp-83
 113-GlyIleGluArgIlePheLysIleSerLysArgAspArgPhe-126
 219-PheLysAlaLysPheProArg-225
 245-ThrProGluArgGlnLysAlaArgSer-253
 261-LeuGluAlaLysAlaValAspGluGluLeuValGluValProArgGlyGluValGly-279
 297-AlaAlaThrAspGluThrIle-303
 315-ThrIleAspGluAspGly-320
 325-ValAspArgLysLysAspLeuIleIle-333
 340-TyrProArgGluIleGluGluGluIleHisLys-350
 361-GlyValLysAspArgTyrAlaAspGluGluIle-371
 377-LeuLysGluGlyMetAspLeuGlyGluAspGluIleArgArgHisLeu-392
 409-AspGlyLeuProArgAsnAlaThr-416
 418-LysValLeuLysArgValLeuLysGluGlnPheGluGlyAsnLys-432
g165-1

AMPHI Regions - AMPHI

17-AlaThrLeuGlyValLeuLeuLysGluLeu-26
 33-ThrLeuIleGluArgLeuGluAsp-40
 73-IleAsnProAlaArgAlaLeuAsnIleAla-82
 90-GlnPheTrpAlaThr-94
 108-AsnAlaValProHis-112
 121-HisCysArgTyrLeuGlnLysArg-128
 130-AspValPheLysThrGlnLysLeuPheGluAsnMet-141
 182-ArgLeuThrArgGlnMetValLysTyrLeuGlnGly-193
 198-ThrGluPheAsnArgHisValGluAspIleLysArgGlu-210
 364-LysThrLysGluGlu-368
 371-AlaSerLeuLeuGlyTyrTyrProArgGln-380

Antigenic Index - Jameson-Wolf

1-MetAlaGluAlaThrAsp-6
 24-LysGluLeuGluProSerTrp-30
 36-GluArgLeuGluAspValAlaLeuGluSerSerAsnAlaTrpAsnAsnAlaGlyThrGly-55
 97-AlaGluGlyLysLeuGluAspAsnSer-105
 117-MetAsnGluAspHisCysArgTyrLeuGlnLysArgTyrAspValPheLysThrGlnLysLeuPheGlu-13
 9
 141-MetGluPheSerThrAspArgAsnLysIleSerAsp-152
 157-IleMetArgGlyArgAspGluAsnGlnPro-166
 169-AlaAsnTyrSerAlaGluGlyThrAspValAspPheGlyArgLeuThrArgGlnMet-187
 191-LeuGlnGlyLysGlyValLysThrGluPheAsnArgHisValGluAspIleLysArgGluSerAspGly-21
 3
 219-ThrAlaAspThrArgAsnProAspTrp-227
 249-GlnLysSerGlyIleProGluGlyLysGlyTyrGlyGly-261
 269-PheArgAsnSerAsnProGluThrAlaGluGlnHisAsn-281
 300-LeuAspThrArgAsnValAspGlyLysArgHisLeu-311

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322-AsnPheLeuLysGlnGlySerPheMet-330
 361-GluLeuArgLysThrLysGluGluArgPhe-370
 375-GluTyrTyrProArgGlnThrArgArg-383
 395-IleXxxTyrAspSerLysLeuArgVal-403
 410-ValProArgAspAlaArgSerArgIleLeuGluArgArgGlyAlaSerArg-426
 430-IleSerAlaAspAspThrAlaProSer-438

Hydrophilic Regions - Hopp-Woods

1-MetAlaGluAlaThrAsp-6
 24-LysGluLeuGluPro-28
 36-GluArgLeuGluAspValAlaLeuGluSer-45
 97-AlaGluGlyLysLeuGluAspAsnSer-105
 117-MetAsnGluAspHisCysArgTyrLeuGlnLysArgTyrAspVal-131
 141-MetGluPheSerThrAspArgAsnLysIleSerAsp-152
 158-MetArgGlyArgAspGluAsnGlnPro-166
 172-SerAlaGluGlyThrAspValAspPhe-180
 182-ArgLeuThrArgGlnMet-187
 194-LysGlyValLysThrGluPheAsnArgHisValGluAspIleLysArgGluSerAspGly-213
 219-ThrAlaAspThrArgAsnProAsp-226
 252-GlyIleProGluGlyLysGly-258
 272-SerAsnProGluThrAlaGluGlnHisAsn-281
 300-LeuAspThrArgAsnValAspGlyLysArg-309
 361-GluLeuArgLysThrLysGluGluArgPhe-370
 378-ProArgGlnThrArgArg-383
 397-TyrAspSerLysLeuArg-402
 410-ValProArgAspAlaArgSerArgIleLeuGluArgArgGlyAlaSerArg-426
 431-SerAlaAspAspThrAlaPro-437

g204**AMPHI Regions - AMPHI**

16-HisIleAlaSerValLeuHisGlyGly-24
 45-GlnPheAlaAlaValPheGlyAspIleAlaHisGlnPheGly-58
 89-ValValGlyMetLeuSerGlyGln-96
 104-GlnAlaPheAsnArgIleThrAspLeuPhePhe-114
 132-ArgArgIleValAspValPheAsp-139
 144-PheArgArgAlaLeuCysArgIleLeuArgLeuPheArgArgIlePheGly-160
 229-ArgAlaPheCysAla-233

Antigenic Index - Jameson-Wolf

4-AlaGluIleLysArgProLeu-10
 34-LeuGlnGlyGlyMetArgAsnGlnVal-42
 55-HisGlnPheGlyLys-59
 68-ArgProAlaArgArgValLeu-75
 82-PheAlaAspAspGlyPheGln-88
 93-LeuSerGlyGlnProAspGlyValLeu-101
 125-SerGlnSerGlnThrGlyAsnArgArgIleValAsp-136
 138-PheAspPheGluAsnArgPheArgArgAlaLeu-148
 162-AlaAlaGlyGlyLysGlnGlnAla-169
 172-GlnHisGlyLysArgTyrPhe-178
 187-SerLysCysArgLeuLysCysArgLeuLysArgGlyArgArgPheGlyArgHisTrp-206
 209-PheAsnGlyArgMetProThrAlaSerArgThrLeuSerAsnAsnSerArgAlaSerLeu-228

Hydrophilic Regions - Hopp-Woods

4-AlaGluIleLysArgProLeu-10
 68-ArgProAlaArgArgArgValLeu-75
 83-AlaAspAspGlyPhe-87

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128-GlnThrGlyAsnArgArgIleValAsp-136
 138-PheAspPheGluAsnArgPheArgArgAlaLeu-148
 165-GlyLysGlnGlnAla-169
 172-GlnHisGlyLysArgTyrPhe-178
 187-SerLysCysArgLeuLysCysArgLeuLysArgGlyArgArgPheGly-203
 213-MetProThrAlaSerArgThrLeuSerAsnAsnSerArgAlaSerLeu-228
g205-1
AMPHI Regions - AMPHI
 6-PheAlaValLeuGlyGly-11
 21-SerGluAsnThrAlaGluGlnProGlnAsnAlaAlaGlnSer-34
 87-GlyLysHisProAsnAspLeuGluAlaValValGlyLys-99
 119-HisThrLeuPheAlaLysLeuValGlyAsnIleAlaGluAspGlyGlyLys-135
 147-GlnProTyrGlnAla-151

Antigenic Index - Jameson-Wolf

18-CysGlyLysSerGluAsnThrAlaGluGlnProGlnAsnAlaAlaGlnSerAlaProLysProValPhe-40
 56-GlyGlnSerSerGluGlyLysThrAsnAspGlyLysLysGlnIle-70
 73-ProIleLysGlyLeuProGluGlnAsnAla-82
 85-LeuThrGlyLysHisProAsnAspLeuGluAlaValVal-97
 99-LysCysMetGluThrAspGlyLysAspAlaProSerGlyTrpAlaGluAsnGly-116
 129-IleAlaGluAspGlyGlyLysLeuThr-137
 149-TyrGlnAlaGlyLysSerGlyTyr-156
 168-IleAspSerGluGlyAlaPhe-174

Hydrophilic Regions - Hopp-Woods

19-GlyLysSerGluAsnThrAlaGluGlnProGln-29
 57-GlnSerSerGluGlyLysThrAsnAspGlyLysLysGlnIle-70
 85-LeuThrGlyLysHisProAsnAspLeuGluAlaValVal-97
 99-LysCysMetGluThrAspGlyLysAspAlaPro-109
 129-IleAlaGluAspGlyGlyLysLeu-136
 150-GlnAlaGlyLysSerGly-155
 168-IleAspSerGluGlyAlaPhe-174

g206**AMPHI Regions - AMPHI**

32-ProLysGlnThrValArgGlnIleGlnAlaVal-42
 44-IleSerHisIleGlyArgThrGln-51
 81-CysSerGlyMetIleGln-86
 99-ArgThrAlaArgAspMet-104
 150-SerGlyLysThrIleLysThrGlu-157

Antigenic Index - Jameson-Wolf

2-PheSerProAspLysThrLeu-8
 21-GlyThrThrSerGlyLysHisArgGlnProLysProLysGlnThrValArg-37
 48-GlyArgThrGlnGlySerGlnGluLeu-56
 66-ThrProTyrLysTrpGlyGlySerSerThr-75
 96-LysLeuProArgThrAlaArgAspMetAlaAlaSerArgLysIleProAspSerArgLeuLysAlaGly-119
 126-ThrGlyGlyAlaHisArgTyrSer-133
 146-HisAlaProGlySerGlyLysThrIleLysThrGluLysLeuSer-160

Hydrophilic Regions - Hopp-Woods

23-ThrSerGlyLysHisArgGlnProLysProLysGlnThrVal-36
 48-GlyArgThrGlnGlySerGln-54
 96-LysLeuProArgThrAlaArgAspMetAlaAlaSerArgLysIleProAspSerArgLeuLysAlaGly-119

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149-GlySerGlyLysThrIleLysThrGluLysLeuSer-160

g211**AMPHI Regions - AMPHI**

18-ValGlyAsnGlyValAspLysPheGlyArgGlyAla-29

57-GlnPheGluArgAla-61

99-LysGlyPheAspGluIleAsnProAla-107

109-AlaLeuAlaGlnValIleGluLeu-116

153-AspGlyLysArgHisGlyLysLeuHis-161

Antigenic Index - Jameson-Wolf

8-AsnGlnLeuGlyGlyArgAsnGlyAlaAlaVal-18

20-AsnGlyValAspLysPheGlyArgGlyAlaAspAsnGlnValGluPheLeuGlu-37

44-GlyAlaSerGlyArgAlaAla-50

73-GlyGluAspAspValVal-78

99-LysGlyPheAspGluIleAsnPro-106

140-CysProArgTyrHisProLysLeuHisAspGlyAsnGlnAspGlyLysArgHisGlyLysLeuHisAspGly
AlaTyr-165

169-GlnArgGlnSerAlaGly-174

Hydrophilic Regions - Hopp-Woods

10-LeuGlyGlyArgAsnGlyAla-16

21-GlyValAspLysPheGlyArgGlyAlaAspAsnGlnValGluPheLeuGlu-37

73-GlyGluAspAspValVal-78

100-GlyPheAspGluIleAsn-105

143-TyrHisProLysLeuHisAspGlyAsnGlnAspGlyLysArgHisGlyLysLeuHisAsp-162

g212**AMPHI Regions - AMPHI**

6-TrpAspGlyIleProAspIleArgThr-14

16-AspGlnThrIleArgLysHisAlaHis-24

40-PheGlnThrAlaGln-44

63-CysLeuGlnPheAspSerIleAsnLeuIleGluHisIle-75

89-ThrArgArgLeuHisGluHis-95

142-AlaSerThrAlaHis-146

199-ArgLeuLeuGlyHis-203

238-HisAsnHisLeuTyrArgSerIleThrSerAlaGluAlaGluLysIle-253

262-TyrAlaGluProLeuCysGlyLeu-269

288-SerHisProLeuIleGluLeu-294

296-GluAsnThrThrLeu-300

397-TrpAsnGluAlaGluGluAla-403

Antigenic Index - Jameson-Wolf

8-GlyIleProAspIleArgThrLeuAspGlnThrIleArgLysHisAlaHisProLeu-26

33-ProAspAsnGlnIleProAspPheGlnThrAlaGlnAspAlaSerAspSerGluCysArgLeuLysHisArgL
euAspGln-59

85-ProProSerArgThrArgArgLeuHisGlu-94

105-AlaIleProGlnThrGluSerLysSerAspLysProTrp-117

122-GlnThrSerGluArgLysLysProGluHis-131

158-LeuGluAlaArgLysAlaAlaGln-165

168-SerGlyAsnArgGlnGly-173

180-SerProHisAspThrGlyGlnThrGlu-188

193-GlyTyrGlyTyrThrLysArgLeuLeu-201

205-LeuProAspSerAspThrTrpGlyGlyAsn-214

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220-AsnTyrSerArgThrGluGlnGlnArgAsnHisGluLeuGlyLeu-234

246-ThrSerAlaGluAlaGluLysIleAla-254

258-LeuAsnThrProTyrAlaGluProLeu-266

303-IleSerHisAspGlyGluLysTrpIle-311

328-ThrGlyAlaHisSerProCysLeuPro-336

346-ArgGlnIleArgGlyGlnThrGlyLeuThrProSerThrProPheSerGluGlnLeuArg-365

376-ProSerTrpHisGly-380

391-AsnSerSerAsnThrGlyTrpAsnGluAlaGluGluAlaSerAsnArgGlnAla-408

Hydrophilic Regions - Hopp-Woods

10-ProAspIleArgThrLeuAspGlnThrIleArgLysHisAla-23

44-GlnAspAlaSerAspSerGluCysArgLeuLysHisArgLeuAspGln-59

87-SerArgThrArgArgLeuHisGlu-94

105-AlaIleProGlnThrGluSerLysSerAspLys-115

122-GlnThrSerGluArgLysLysProGluHis-131

158-LeuGluAlaArgLysAlaAlaGln-165

180-SerProHisAspThrGlyGln-186

206-ProAspSerAspThr-210

222-SerArgThrGluGlnGlnArgAsnHisGlu-231

246-ThrSerAlaGluAlaGluLysIleAla-254

304-SerHisAspGlyGluLysTrpIle-311

346-ArgGlnIleArgGly-350

398-AsnGluAlaGluGluAlaSerAsnArgGlnAla-408

g214-1**Hydrophilic Regions - Hopp-Woods**

10-ProAspIleArgThrLeuAspGlnThrIleArgLysHisAla-23

44-GlnAspAlaSerAspSerGluCysArgLeuLysHisArgLeuAspGln-59

87-SerArgThrArgArgLeuHisGlu-94

105-AlaIleProGlnThrGluSerLysSerAspLys-115

122-GlnThrSerGluArgLysLysProGluHis-131

158-LeuGluAlaArgLysAlaAlaGln-165

180-SerProHisAspThrGlyGln-186

206-ProAspSerAspThr-210

222-SerArgThrGluGlnGlnArgAsnHisGlu-231

246-ThrSerAlaGluAlaGluLysIleAla-254

304-SerHisAspGlyGluLysTrpIle-311

346-ArgGlnIleArgGly-350

398-AsnGluAlaGluGluAlaSerAsnArgGlnAla-408

Antigenic Index - Jameson-Wolf

23-LeuGlnSerAspSerArgArgProIleGlnIleGluAlaAspGlnGlySerLeuAspGlnAlaAsnGlnSerThrPheSerGlyAsn-52

71-ArgGlyGlyLysGlyGlyGluSerValArgAlaGluGlySerProValArgPheSerGlnThrLeuAspGlyGlyLysGlyThrValArgGlyGlnAlaAsnAsnVal-106

119-GlyAsnAlaLysValGlnArgGlyGlyAspValAlaGlu-131

138-AsnThrLysThrGluVal-143

148-GlySerThrLysSerGlyAlaLysSerAlaSerLysThrGlyArgVal-163

169-ProSerSerThrGlnLysThrGlu-176

Hydrophilic Regions - Hopp-Woods

-743-

25-SerAspSerArgArgProIleGlnIleGluAlaAspGlnGlySerLeuAspGlnAlaAsn-44
 71-ArgGlyGlyLysGlyGlyGluSerValArgAlaGluGlySerPro-85
 92-LeuAspGlyGlyLysGlyThrValArgGlyGlnAla-103
 121-AlaLysValGlnArgGlyGlyAspValAlaGlu-131
 148-GlySerThrLysSerGlyAlaLysSerAlaSerLysThrGlyArg-162
 171-SerThrGlnLysThrGlu-176

g215**AMPHI Regions** - AMPHI

21-SerLeuSerAlaTrpLeuGlyArgIle-29
 67-SerAlaLysGlyAlaLysGlnPhe-74

Antigenic Index - Jameson-Wolf

3-ValArgTrpArgTyrGly-8
 28-ArgIleSerGluValGluIleGluGluValArgLeuAsnProAspGluProGlnTyrThrMetAspGlyLeuA
 spGlyArgArgPheAspGluGlnGlyTyrLeuLys-63
 65-HisLeuSerAlaLysGlyAlaLysGlnPheProGluAsnSerAspIleHisPheAspSerProHisLeu-87
 99-ValGlySerAspGluAlaValTyrHisThrGluAsnLysGlnValLeuPhe-115
 123-LysThrAlaAspGlyArgArgGlnAlaGlyLysValGluThrGluLysLeuHisValAspThrGluSerGln
 TyrAlaGlnThrAspThrProVal-154
 160-AlaSerHisGlyGlnAlaGlyGly-167
 170-TyrAsnHisLysThrGly-175
 179-PheSerSerLysValLys-184
 187-IleTyrAspThrLysAspMet-193

Hydrophilic Regions - Hopp-Woods

29-IleSerGluValGluIleGluGluValArgLeuAsnProAspGluProGlnTyr-46
 49-AspGlyLeuAspGlyArgArgPheAspGlu-58
 65-HisLeuSerAlaLysGlyAlaLysGlnPheProGluAsnSerAspIleHisPhe-82
 99-ValGlySerAspGluAlaValTyr-106
 108-ThrGluAsnLysGlnValLeu-114
 123-LysThrAlaAspGlyArgArgGlnAlaGlyLysValGluThrGluLysLeuHisValAspThrGluSerGln
 TyrAla-148
 187-IleTyrAspThrLysAspMet-193

g216-2**AMPHI Regions** - AMPHI

19-AlaGluGlyLeuArgGluIleAlaAlaGluLeu-29
 50-ArgLysMetAlaAla-64
 165-LeuGlyAspAlaLeuAlaVal-171
 201-ValAlaAspIleMetHis-206
 251-GlyAspLeuArgArgLeuPheGlnGluCysAspAsnPheThrGlyLeuSerIle-268
 272-MetHisThrHisProLysThrIleSerAla-281
 290-LysValMetGlnAlaAsn-295

Antigenic Index - Jameson-Wolf

1-MetAlaGluAsnGluLysTyrLeuAspTrpAlaArg-12
 14-ValLeuHisThrGluAlaGluGlyLeuArgGluIleAlaAlaGluLeuAspGlu-31
 43-CysLysGlyArgVal-47
 51-GlyMetGlyLysSerGlyHisIleGlyArgLysMetAla-63
 80-GluAlaAlaHisGlyAspLeu-86
 90-ValAspAsnAspVal-94
 99-SerAsnSerGlyGluSerAspGluIle-107
 113-AlaLeuLysArgLysAspIle-119
 125-ThrAlaArgProAspSerThrMetAlaArgHisAlaAsp-137
 144-ValSerGlnGluAlaCysProLeu-151
 177-ArgAlaPheThrProAspAspPheAla-185

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190-AlaGlySerLeuGlyLys-195
 203-AspIleMetHisLysGlyGlyLeuProAla-213
 227-MetSerGluLysGlyLeu-232
 238-ThrAspGlyGlnGlyCysLeu-244
 248-PheThrAspGlyAspLeuArgArgLeuPheGlnGluCysAspAsnPheThr-264
 275-HisProLysThrIleSerAlaGluArgLeuAlaThrGluAlaLeuLys-290

Hydrophilic Regions - Hopp-Woods

1-MetAlaGluAsnGluLysTyrLeuAspTrpAlaArg-12
 14-ValLeuHisThrGluAlaGluGlyLeuArgGluIleAlaAlaGluLeuAspGlu-31
 43-CysLysGlyArgVal-47
 56-GlyHisIleGlyArgLysMetAla-63
 100-AsnSerSerGlyGluSerAspGluIle-107
 113-AlaLeuLysArgLysAspIle-119
 126-AlaArgProAspSerThrMetAlaArgHisAlaAsp-137
 144-ValSerGlnGluAla-148
 177-ArgAlaPheThrProAspAsp-183
 227-MetSerGluLysGlyLeu-232
 251-GlyAspLeuArgArgLeuPheGlnGluCysAspAsn-262
 277-LysThrIleSerAlaGluArgLeuAlaThrGluAlaLeuLys-290

g218**AMPHI Regions - AMPHI**

9-AlaLysValValAsnThrMet-15
 23-HisThrMetAspGluIleHisGly-30
 78-AlaArgSerTrpTrpArgAsnLeuHisGlyAlaPheGlyThrTrpValSerLeuIleLeu-97
 111-TrpGlyGlyLysPheValGlnAlaTrpAsnGlnPhePro-123
 176-ThrGluProAsnAsnIle-181
 187-PheArgAlaGlyAsnArgPheGlnArgAlaLeuSerVal-199

Antigenic Index - Jameson-Wolf

14-ThrMetProArgAsnGlnGlyTrp-21
 26-AspGluIleHisGly-30

62-AlaLysGlnArgGlyIleLys-68
 71-LeuLeuProProLysSerArgAlaArgSerTrpTrp-82
 86-HisGlyAlaPheGly-90
 123-ProAlaGlyLysTrpGlyValGluProAsnProVal-134
 143-ValLeuAsnAspGlyLysValLysGlu-151
 167-ThrValGlyGluAsnGlyIleAsnProThrGluProAsnAsnIleGlyAsnArgArgProPheArgAlaGly
 AsnArgPheGlnArg-195

201-PheAlaGlnArgArgGlyArgGlyMetAspPhe-211

Hydrophilic Regions - Hopp-Woods

26-AspGluIleHisGly-30
 64-GlnArgGlyIleLys-68
 74-ProLysSerArgAla-78

143-ValLeuAsnAspGlyLysValLysGlu-151
 171-AsnGlyIleAsnProThrGluProAsnAsnIleGlyAsnArgArgProPheArgAlaGlyAsnArgPheGln
 Arg-195

201-PheAlaGlnArgArgGlyArgGlyMetAsp-210

g225-1**AMPHI Regions - AMPHI**

-745-

23-LeuAlaAspGluLeuThrAsn-29
 37-IleLeuArgGlnPhe-41
 92-AspLysLeuIleGlySerAlaMetArg-100
 122-PheMetGlnHisIlePheLys-128
 188-ThrGlyLysAsnIle-192

Antigenic Index - Jameson-Wolf

22-AlaLeuAlaAspGluLeuThr-28
 32-SerSerArgGluGlnIleLeu-38
 41-PheAlaGluAspGluGlnProVal-48
 50-ProValAsnArgAlaProAlaArgArgAlaGlyAsnAlaAspGluLeuIle-66
 79-ArgValAsnArgAlaXxxAlaArgArgAlaGlyAsnAlaAspLysLeuIle-95
 115-ThrGlyPheAspCysSerGly-121
 135-LeuProArgThrSerAlaGluGlnAlaArgMet-145
 147-AlaProValAlaArgSerGluLeuGlnProGlyAsp-158
 165-LeuGlyGlySerArgIleSer-171
 184-HisAlaProArgThrGlyLysAsnIleGlu-193
 196-SerLeuSerHisLysTyrTrpSerGlyLys-205
 210-ArgArgValLysLysAsnAspProSerArgPhe-220

Hydrophilic Regions - Hopp-Woods

22-AlaLeuAlaAspGluLeuThr-28
 32-SerSerArgGluGlnIleLeu-38
 41-PheAlaGluAspGluGlnPro-47
 53-ArgAlaProAlaArgArgAlaGlyAsnAlaAspGluLeuIle-66
 79-ArgValAsnArgAlaXxxAlaArgArgAlaGlyAsnAlaAspLysLeuIle-95
 137-ArgThrSerAlaGluGlnAlaArgMet-145
 149-ValAlaArgSerGluLeuGlnPro-156
 187-ArgThrGlyLysAsnIleGlu-193
 210-ArgArgValLysLysAsnAspProSerArg-219

g226**AMPHI Regions - AMPHI**

44-LeuIleAlaTyrLeuLys-49
 98-GlnLeuAlaGlySerValThrGlyIleValThr-108
 142-ThrLeuTyrAlaArgValLeuProPro-150
 165-ThrLeuArgArgPhe-169
 174-LysLysLeuArgProPheLysProLeuLeuProVal-185

Antigenic Index - Jameson-Wolf

3-GluIleLeuArgGlnProSer-9
 25-ValArgThrArgThrGlyAsnIle-32
 67-PheArgLeuLysPro-71
 81-TyrGlnAsnArgArgLysIle-87
 117-GlyProAspThrGlnPhe-122
 124-PheProProArgLeu-128
 155-ProProLeuLeuProArgLeuGlyProHisThrLeuArgArg-168
 171-IleLeuProLysLysLeuArgProPheLys-180

Hydrophilic Regions - Hopp-Woods

25-ValArgThrArgThr-29
 82-GlnAsnArgArgLysIle-87
 173-ProLysLysLeuArgPro-178

g227**AMPHI Regions - AMPHI**

36-GlyValLeuPheAlaLeuLeuGlnAla-44

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51-TrpLeuGlnGlnLeuThrAspAlaLeu-59
 74-ValIleSerTyrLeuAspLeuIleAlaAspAspTrpPheSer-87
g230-1

AMPHI Regions - AMPHI

6-GluLysTyrArgThr-10
 49-GluHisSerIleAsnAsn-54
 56-MetGlnAsnGluGln-60
 69-AspAlaValPheGlnSerLeuLeuGln-77
 81-LeuLysGlnGlyAlaLys-86
 96-GlnIleLysGlnMetIle-101
 115-SerHisAlaLeuLeuSer-120
 133-PheValGluGluIleArgAspGlnPhe-141
 144-GlnAsnLeuValSerLeu-149
 161-AlaGluGlnLeuIleArgLeuThrGlnValAsnArgThrIleArg-175
 184-PheIleAlaGlnVal-188
 194-AspLeuGlnLysPheTyrAsn-200
 234-GluValLysAsnAlaPheGluGluArgValAlaArgLeu-246
 272-ValAlaAspPheAsnLys-277
 284-AspAspAlaPheAsnHisProSerSerLeuAlaGluAla-296
 319-SerGlyMetProGluAsnLeuIleAsnAlaVal-329
 398-LeuAsnGlyGlyLys-402
 426-GluAlaTyrAlaGluLeu-431
 461-ThrProProGluAspIleAlaAla-468
 488-LeuLeuIleArgTyrPheAsn-494

Antigenic Index - Jameson-Wolf

4-SerIleGluLysTyrArgThrProAla-12
 32-SerHisProGlyAlaAsp-37
 42-ValGlyAspGluLysIleSerGluHisSerIle-52
 56-MetGlnAsnGluGlnAlaAspGlyGlySerProTrpArg-68
 80-TyrLeuLysGlnGlyAla-85
 92-ValSerSerGluGlnIleLys-98
 101-IleValAspAspProAsnPheHisAspAlaAsnGlyLysPhe-114
 123-LeuSerGlnArgHisMetSerGluAspGlnPheValGluGluIleArgAsp-139
 169-GlnValAsnArgThrIleArgSerHisThrPheAsnProAspGluPhe-184
 189-LysAlaSerGluAlaAspLeu-195
 199-TyrAsnAlaAsnLysLysAspTyrLeu-207
 223-AspPheAlaAspLysGlnThrValSerGluThrGluValLysAsnAlaPheGluGluArgValAlaArg-245
 247-ProAlaHisGluAlaLysProSerPheGluGlnGluLysAlaAlaValGluAsnGluLeuLysMetLysLysAlaValAlaAspPheAsnLysAlaLysGluLysLeuGlyAspAspAlaPheAsnHisProSerSerLeuAlaGluAlaLysAsnSerGlyLeuLysValGluThrGlnGluThrTrpLeuSerArgGlnAspAlaGlnMetSerGlyMetProGluAsn-324
 330-PheSerAspAspValLeuLysLysLysHisAsnSerGlu-342
 355-ArgAlaLysGluValArgGluGluLysAsnLeuLeu-366
 368-GluGluAlaLysAspAlaValArg-375
 377-AlaTyrIleArgThrGluAlaAlaLysLeuAlaGluAsnLysAlaLysGluValLeu-395
 399-AsnGlyGlyLysAlaValAsp-405
 417-GlnGlnAlaArgGlnSerMetProProGluAlaTyr-428
 432-LeuLysAlaLysProAlaAsnGlyLysProAla-442
 459-AlaValThrProProGluAspIleAla-467
 476-AlaLeuAlaGlnGlnGlnSerAlaAsnThrPhe-486
 493-PheAsnGlyLysIleLysGlnThrLysGlyAlaGlnSerValAspAsnGlyAspGlyGln-512

Hydrophilic Regions - Hopp-Woods

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6-GluLysTyrArgThr-10
42-ValGlyAspGluLysIleSerGlu-49
56-MetGlnAsnGluGlnAlaAspGly-63
92-ValSerSerGluGlnIleLys-98
101-IleValAspAspProAsnPhe-107
110-AlaAsnGlyLysPhe-114
126-ArgHisMetSerGluAspGlnPheValGluGluIleArgAsp-139
189-LysAlaSerGluAlaAspLeu-195
200-AsnAlaAsnLysLysAspTyrLeu-207
223-AspPheAlaAspLysGlnThrValSerGluThrGluValLysAsnAlaPheGluGluArgValAlaArg-245
247-ProAlaHisGluAlaLysProSerPheGluGlnGluLysAlaAlaValGluAsnGluLeuLysMetLysLysAlaValAlaAspPheAsnLysAlaLysGluLysLeuGlyAspAlaPheAsn-288
292-SerLeuAlaGluAlaAlaLysAsnSerGlyLeuLysValGluThrGlnGlu-308
310-TrpLeuSerArgGlnAspAlaGlnMet-318
333-AspValLeuLysLysLysHisAsnSer-341
355-ArgAlaLysGluValArgGluGluLysAsnLeuLeu-366
368-GluGluAlaLysAspAlaValArg-375
377-AlaTyrIleArgThrGluAlaAlaLysLeuAlaGluAsnLysAlaLysGluValLeu-395
417-GlnGlnAlaArgGlnSerMetPro-424
432-LeuLysAlaLysProAlaAsnGly-439
461-ThrProProGluAspIleAla-467
496-LysIleLysGlnThrLysGlyAlaGlnSerValAspAsnGlyAspGlyGln-512
g231-1
AMPHI Regions - AMPHI
7-IleAsnArgProTyrGlnLysProAlaGluLeu-17
98-ArgIlePheSerPheProGln-104
169-TyrAsnGluPheArgThrLeuArgArg-177
209-AlaValAspAspValLysGlyIleAlaVal-218

Antigenic Index - Jameson-Wolf

1-MetSerLysArgLysSerIleAsnArgProTyrGlnLysProAlaGlu-16
18-ProProLeuGlnAsnAsnProProPheTyrArgLysAsnArgArgLeuAsn-34
39-AlaAspGlyGlyCysAlaSerProGlnLysCysArgAlaArgGlyPheGln-55
90-ProAlaValArgProArgArgLeuArg-98
135-MetProArgArgProVal-140
167-HisThrTyrAsnGluPheArgThrLeuArgArgArgAlaGlnVal-181
196-ValAspIleArgHisProAsn-202
209-AlaValAspAspValLysGly-215

Hydrophilic Regions - Hopp-Woods

1-MetSerLysArgLysSerIleAsn-8
10-ProTyrGlnLysProAlaGlu-16
26-PheTyrArgLysAsnArgArg-32
45-SerProGlnLysCysArgAlaArgGly-53
92-ValArgProArgArgLeuArg-98
136-ProArgArgProVal-140
173-ArgThrLeuArgArgArgAlaGlnVal-181
196-ValAspIleArgHis-200
209-AlaValAspAspValLysGly-215

g232**AMPHI Regions - AMPHI**

14-AlaIleLeuPheGly-18
21-LeuGlyThrAlaVal-25
68-ValArgGlyThrLysSerLeuLeuArgGluThrVal-79

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105-LeuProThrPheThrGln-110
151-ValThrValGlyAlaLeuGlySerThrValCys-161
173-ArgPheGluGlyLeuAsn-178
194-AlaValMetThrLeuIleGlyPhePheGlyGlyPhePheSerValProLeuTyrThrTrpLeu-214

Antigenic Index - Jameson-Wolf

54-ValProAlaLysAlaAlaAspThrGlnIle-63
69-ArgGlyThrLysSerLeuLeuArgGluThrValArgHisAsnProVal-84
112-HisLeuGlyGlyAsnAspAsnVal-119
140-LysPheGlyArgGluArgLeu-146
170-HisGlyHisArgPheGluGly-176
217-AlaSerSerGluThrPheArgAlaArgAla-226
274-IleLysArgGluArgArgPheLeu-281
285-AlaIleArgLysLysPro-290

Hydrophilic Regions - Hopp-Woods

55-ProAlaLysAlaAlaAspThrGlnIle-63
69-ArgGlyThrLysSerLeuLeuArgGluThrValArg-80
140-LysPheGlyArgGluArgLeu-146
172-HisArgPheGluGly-176
220-GluThrPheArgAlaArgAla-226
274-IleLysArgGluArgArgPheLeu-281
285-AlaIleArgLysLysPro-290

g233**AMPHI Regions - AMPHI**

36-GluHisValLeuGly-40
61-PheAlaAspLysValGlnThr-67
71-GlnValArgValTrpLysAsn-77
88-AsnGlyValAlaLysLeuLeuGluThr-96
119-AlaLeuAlaArgLeuIleGluGlnAlaGlyAsnAla-130
138-ValProValAlaAspThrLeuLysArgAlaGluSer-149
182-GluAsnLeuGlyGlyIleThrAsp-189

Antigenic Index - Jameson-Wolf

1-MetLysArgLysAsnIle-6
17-ArgPheGlyAlaAspLysProLysGlnTyrValGluIleGlySerLysThrValLeu-35
43-GluArgHisGluAlaValAsp-49
56-SerProGluAspThrPheAlaAspLysValGln-66
75-TrpLysAsnGlyGlyGlnThrArgAlaGluThrValArgAsnGlyVal-90
100-AlaGluThrAspAsn-104
109-AspAlaAlaArgCys-113
115-LeuProSerGluAlaLeu-120
123-LeuIleGluGlnAlaGlyAsnAlaAlaGluGlyGly-134
142-AspThrLeuLysArgAlaGluSerGlyGln-151
155-ThrValAspArgSerGlyLeu-161
183-AsnLeuGlyGlyIleThrAspGluAlaSerAlaValGluLysLeuGlyVal-199
206-GlyAspAlaArgAsnLeuLysLeuThrGlnProGlnAspAlaTyr-220

Hydrophilic Regions - Hopp-Woods

1-MetLysArgLysAsnIle-6
18-PheGlyAlaAspLysProLysGlnTyrVal-27
43-GluArgHisGluAlaValAsp-49
56-SerProGluAspThrPheAlaAspLysValGln-66
79-GlyGlnThrArgAlaGluThrValArg-87
100-AlaGluThrAspAsn-104

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127-AlaGlyAsnAlaAlaGlu-132
 142-AspThrLeuLysArgAlaGluSerGlyGln-151
 187-IleThrAspGluAlaSerAlaValGluLysLeuGlyVal-199
 206-GlyAspAlaArgAsnLeuLys-212

g234**AMPHI Regions - AMPHI**

26-ArgSerLeuGluValAlaLysValAla-34
 68-AspArgLeuGlySerGln-73
 83-GlnGlnThrAsnArgPheAsnValLeuAsnArgThrAsn-95
 121-GlyAspValThrGluPhe-126
 205-GluAlaValAspAsnLeuValGlnAlaValAspAsn-216

Antigenic Index - Jameson-Wolf

21-AlaThrGluSerSerArgSerLeuGluValAlaLys-32
 51-ThrPheAspAsnArgSerSerPhe-58
 62-IlePheSerAspSerGluAspArgLeuGlySerGlnAla-74
 83-GlnGlnThrAsnArgPheAsnValLeuAsnArgThrAsn-95
 99-LeuLysGlnGluSerGlyIleSerGlyLysAlaGlnAsnLeuLysGlyAlaAspTyr-117
 121-GlyAspValThrGluPheGlyArgArgAspValGlyAsp-133
 140-LeuGlyArgGlyLysSerGlnIle-147
 169-GlnGlyAlaGlyGlu-173
 175-AlaLeuSerAsnArgGluIle-181
 185-GlyGlyThrSerGlyTyrAspAlaThrLeuAsnGlyLysValLeu-199
 214-ValAspAsnGlyAlaTrpGlnSerAsnArg-223

Hydrophilic Regions - Hopp-Woods

21-AlaThrGluSerSerArgSerLeuGluValAlaLys-32
 52-PheAspAsnArgSerSerPhe-58
 62-IlePheSerAspSerGluAspArgLeuGlySerGlnAla-74
 99-LeuLysGlnGluSerGlyIleSerGlyLysAlaGlnAsnLeuLysGly-114
 122-AspValThrGluPheGlyArgArgAspValGlyAsp-133
 141-GlyArgGlyLysSer-145
 176-LeuSerAsnArgGluIle-181

g235**AMPHI Regions - AMPHI**

8-LeuAlaAlaValLeuAlaLeu-14
 18-GlnValArgLysAlaProAsp-24
 88-AsnAlaAlaAspIle-92
 95-ValArgProGluLysLeuHisGlnIlePhe-104
 120-SerTyrGlnIleLeuAspSerValThrThr-129
 165-GlyAlaLeuValGlyAlaValValAsnGlnIleAlaAsnSerLeuThr-180
 187-SerLysThrAlaAlaTyrAsnLeuLeu-195

Antigenic Index - Jameson-Wolf

17-CysGlnValArgLysAlaProAspLeuAspTyrThrSerPheLysGluSerLysProAla-36
 43-ProLeuAsnGluSerProAspValAsnGlyThr-53
 79-GluThrPheLysGluAsnGlyLeu-86
 93-HisAlaValArgProGluLysLeu-100
 131-SerAlaLysAlaArgLeuValAspSerArgAsnGlyLysGluLeuTrpSerGlySerAlaSerIleArgGlu
 GlySerAsnAsnSerAsnSer-161
 178-SerLeuThrAspArgGlyTyrGlnValSerLysThrAla-190
 197-ProTyrSerArgAsnGlyIleLeuLysGlyProArgPheValGluGluGlnProLys-215

Hydrophilic Regions - Hopp-Woods

18-GlnValArgLysAlaProAspLeuAsp-26

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29-SerPheLysGluSerLysPro-35
 44-LeuAsnGluSerProAspVal-50
 79-GluThrPheLysGluAsnGlyLeu-86
 93-HisAlaValArgProGluLysLeu-100
 131-SerAlaLysAlaArgLeuValAspSerArgAsnGlyLysGluLeuTrp-146
 150-AlaSerIleArgGluGlySerAsnAsnSer-159
 179-LeuThrAspArgGlyTyrGln-185
 207-ProArgPheValGluGluGlnProLys-215
g236

AMPHI Regions - AMPHI

10-IleLeuArgThrAlaPhe-15
 107-PheAlaArgPheAlaAspCysArgProPhe-116
 146-AspAspValProArgPhePheAlaGlyGlu-155
 168-ArgAspValValGlnGlyGlyLeu-175
 213-GlyGluValGluGlyIleAlaArgIleValThrAlaCysGlnThrLeuLeuGlnProProArgGlnTyrGln-236
 245-IleArgLeuLeuHisGlyIlePheAsnArgIleLysValAla-258
 275-PheGlyAsnAlaPheGluAspPhe-282
 316-ValAlaAspGlyPheArgHisPheAlaAla-325

Antigenic Index - Jameson-Wolf

43-PheGlyGlyAsnGlyLysPheIleThr-51
 58-ArgHisGlnGlnGlyLysAla-64
 77-PhePheArgArgGlyAsnPheGlyPheArgLeuGlnGlyArgThrAspSerPhe-94
 98-GlnArgLeuAspSerGlyGlyTyr-105
 111-AlaAspCysArgProPhe-116
 126-ValAspGlyArgGluLeuValProSerMetGluGluAspAla-139
 145-AlaAspAspValPro-149
 152-PheAlaGlyGluAlaGlnAsnArgCysAsnGlnGluAsnGlnAlaAlaArgAspValValGlnGlyGlyLeu-175
 195-ValGluValGluArgAlaGlnValPheArgAlaGluArgAsnAsnValPhe-211
 213-GlyGluValGluGlyIleAla-219
 230-GlnProProArgGlnTyrGln-236
 261-GlyLysGlnGluAlaGlnGly-267
 292-IleGlyGlyCysArgProGlnAlaGlnAspValArgAla-304
 310-PheLeuArgArgAspAspValAlaAspGly-319
 341-CysAlaSerHisGly-345

Hydrophilic Regions - Hopp-Woods

87-LeuGlnGlyArgThrAspSer-93
 98-GlnArgLeuAspSer-102
 127-AspGlyArgGluLeuValProSerMetGluGluAspAla-139
 145-AlaAspAspValPro-149
 156-AlaGlnAsnArgCysAsnGlnGluAsnGlnAlaAlaArgAspValVal-171
 195-ValGluValGluArgAlaGlnValPheArgAlaGluArgAsnAsn-209
 213-GlyGluValGluGlyIleAla-219
 261-GlyLysGlnGluAlaGlnGly-267
 295-CysArgProGlnAlaGlnAspValArgAla-304
 310-PheLeuArgArgAspAspValAlaAspGly-319

g238**AMPHI Regions - AMPHI**

103-ValHisSerProPheAsp-108
 115-ThrSerAspPheSerGlyGlyVal-122
 129-TyrGlnLeuHisArgThrGlySer-136

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140-ProAlaAspGlyTyrAspGlyProGlnGlyGlyGlyTyrProGluProGlnGlyAlaArgAspIleTyrSer
Tyr-164
221-AsnArgMetAspAspIleArgGlyIleValGlnGlyAlaValAsnProPheLeuThrGlyPheGlnGlyVal
-244
246-IleGlyAlaIleThrAspSerAlaValSerProValThrAspThrAlaAlaGlnGlnThrLeuGlnGlyIle
AsnAspLeuGlyAsn-274
298-IleAsnSerAlaArgGlnTrpAlaAspAla-307
342-AspTrpValLysAsn-346
351-LysProAlaAlaArgHisMetGlnThrVal-360
367-GlyAsnArgProProLysSerIleThrSer-376
383-AlaThrTyrProLysLeuValAsnGlnLeuAsnGluGlnAsnLeu-397
426-GluGluAlaAspArgLeuGlyLysIleTrpVal-436
454-ThrArgGlnTyrArg-458

Antigenic Index - Jameson-Wolf

25-HisAlaAsnGlyLeuAspAlaArgLeuArgAspAspMetGlnAlaLysHisTyrGluProGlyGlyLys-47
53-AsnAlaArgGlySerValLysAsnArgVal-62
80-ThrHisGluArgThrGlyPheGluGly-88

96-PheSerGlyHisGlyHisGluVal-103

105-SerProPheAspAsnHisAspSerLysSerThrSerAspPheSerGlyGlyValAspGlyGly-125
131-LeuHisArgThrGlySerGluIleHisProAlaAspGlyTyrAspGlyProGlnGlyGlyGlyTyrProGlu
ProGlnGlyAlaArgAspIleTyr-162
166-IleLysGlyThrSerThrLysThrLysIle-175
182-ProPheSerAspArgTrpLeuLysGluAsnAlaGlyAla-194
200-SerArgAlaAspGluAlaGly-206
210-TrpGluAsnAspProAspLysAsnTrpArgAlaAsnArgMetAspAspIleArgGlyIle-229
268-GlyIleAsnAspLeuGlyAsnLeuSerProGluAla-279
292-PheAlaValLysAspGlyIleAsnSerAlaArgGlnTrpAlaAspAlaHisProAsnIle-311
328-ValTrpArgGlyLysLysValGluLeuAsnProThrLysTrpAspTrpValLysAsnThrGlyTyrLysLys
ProAlaAlaArg-355
358-GlnThrValAspGlyGluMetAlaGlyGlyAsnArgProProLysSerIleThrSerGluGlyLysAlaAsn
-381
391-GlnLeuAsnGluGlnAsnLeu-397
401-AlaAlaGlnAspProArgLeu-407
411-IleHisGluGlyLysLysAsnPhePro-419
423-AlaThrTyrGluGluAlaAspArgLeuGly-432
438-GluGlyAlaArgGlnThrSerGlyGlyGlyTrpLeuSerArgAspGlyThrArgGlnTyrArgProProThr
GluLysLysSerGln-466
480-ThrIleAspSerAsnGluLysArgAsnLysIleLysAsnGly-493

Hydrophilic Regions - Hopp-Woods

29-LeuAspAlaArgLeuArgAspAspMetGlnAlaLysHisTyrGluProGlyGly-46
54-AlaArgGlySerValLysAsnArgVal-62
80-ThrHisGluArgThrGlyPhe-86
107-PheAspAsnHisAspSerLysSerThrSerAspPhe-118
133-ArgThrGlySerGluIleHisPro-140
142-AspGlyTyrAspGlyProGln-148
151-GlyTyrProGluProGlnGlyAlaArgAsp-160
168-GlyThrSerThrLysThrLysIle-175
186-ArgTrpLeuLysGluAsnAlaGly-193
200-SerArgAlaAspGluAlaGly-206
212-AsnAspProAspLysAsnTrpArgAlaAsnArgMetAspAspIleArgGly-228
296-AspGlyIleAsnSer-300

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329-TrpArgGlyLysLysValGluLeuAsnProThr-339
 347-ThrGlyTyrLysLysProAlaAlaArg-355
 360-ValAspGlyGluMetAlaGlyGlyAsnArgProProLysSerIleThrSerGluGlyLysAlaAsn-381
 392-LeuAsnGluGlnAsnLeu-397
 401-AlaAlaGlnAspProArgLeu-407
 412-HisGluGlyLysLysAsnPhe-418
 424-ThrTyrGluGluAlaAspArgLeuGly-432
 438-GluGlyAlaArgGlnThrSer-444
 449-LeuSerArgAspGlyThrArgGlnTyrArgProProThrGluLysLysSerGln-466
 482-AspSerAsnGluLysArgAsnLysIleLysAsn-492

g239**AMPHI Regions - AMPHI**

49-PheArgLeuValGlnSerCys-55
 72-AsnAlaHisArgLysGln-77
 123-ProGlyPheAsnAlaLeuProThrIlePhe-132
 154-GluTyrPheLeuThr-158
 165-SerSerAsnGluTrp-169
 221-PheCysAlaThrIleCysAlaSerLeuArg-230

Antigenic Index - Jameson-Wolf

6-GlyIleAlaArgAsnArgArgMetGlu-14
 19-CysArgArgProAspArgPheVal-26
 28-ArgGlnThrArgLeuLeu-33
 53-GlnSerCysGluValGluPro-59
 66-HisAsnGlyLysSerGlyAsnAlaHisArgLysGlnGlnLysGluIleArg-82
 84-ValHisCysArgSerAspVal-90
 100-ProAlaValArgSerAlaThrArgLysThrAla-110
 132-PheArgGlyGlySerGlyLysSerAlaSer-141
 147-LeuGlyArgGlySerCysCysGluTyr-155
 164-ArgSerSerAsnGluTrpLys-170
 173-ThrAlaLysArgProProSerPheArgArgHisMetThrCysGlyAsnThrAlaProThrSerSerSerSerArgLeuIleLys-200
 209-ValAlaGlySerCysProArgSerArgValArgThr-220
 248-TrpArgLeuAsnArgSerSerPro-255

Hydrophilic Regions - Hopp-Woods

6-GlyIleAlaArgAsnArgArgMetGlu-14
 20-ArgArgProAspArgPheVal-26
 67-AsnGlyLysSerGlyAsnAlaHisArgLysGlnGlnLysGluIleArg-82
 102-ValArgSerAlaThrArgLysThrAla-110
 135-GlySerGlyLysSerAlaSer-141
 165-SerSerAsnGluTrpLys-170
 173-ThrAlaLysArgProProSerPheArgArgHisMet-184
 193-SerSerSerSerArgLeuIleLys-200
 211-GlySerCysProArgSerArgValArgThr-220
 251-AsnArgSerSerPro-255

g240**AMPHI Regions - AMPHI**

19-AlaAspValGlyArgPheLeuHis-26
 64-IleGlnCysLeuArgAsnHis-70
 88-AlaProLeuPheAla-92
 108-GlnGlyGluAspPheProArgAlaGlyIleGlnAsnHis-120
 164-ValGlnAlaValHisAsn-169
 178-AsnPheArgAlaValPheAlaIle-185
 189-PheLysArgLysPheGln-194

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Antigenic Index - Jameson-Wolf

10-AlaGluThrArgArgGlnPheAla-17

41-AlaHisGlyArgArgSerAspPheIleArg-50

68-ArgAsnHisGluArgPheAspCysArgThrArgPheAsp-80

102-ValGlyGlyArgIleGlyGlnGlyGluAspPheProArgAlaGlyIleGlnAsnHisHisArgSerGly-124

140-GlnGlyLeuAsnProLeuIleGluGlyLysAspAspVal-152

189-PheLysArgLysPhe-193

202-AsnIleGlyLysSerAspAspValCysLys-211

Hydrophilic Regions - Hopp-Woods

10-AlaGluThrArgArgGlnPheAla-17

42-HisGlyArgArgSerAspPheIleArg-50

68-ArgAsnHisGluArgPheAspCysArgThrArgPheAsp-80

106-IleGlyGlnGlyGluAspPheProArg-114

146-IleGluGlyLysAspAspVal-152

189-PheLysArgLysPhe-193

204-GlyLysSerAspAspValCysLys-211

g241-1**AMPHI Regions - AMPHI**

6-ThrArgAlaAlaAsnProPro-12

35-ThrHisThrProHisGluProAlaSerSer-44

109-PheLeuIleGlyCysIleAlaHisAlaPheAsnArgSerPheLys-123

126-PheHisAlaCysGlnArgMetValAlaVal-135

195-HisPheAspArgIleAlaGlyIleLeuThrValIn-206

228-GlyPheIleGlnLysLeuIleValGlyIleIleHis-239

Antigenic Index - Jameson-Wolf

1-MetProThrArgProThrArgAlaAlaAsnProProThrPro-14

22-TyrCysProArgProProTyrArgProProSerValGlnThrHisThrProHisGluProAlaSerSerThrCysAlaAlaLysSerAlaAsnArgArgGluAsnSerHisAsnAlaGlnPro-62

68-ProSerAsnLysMetProSerGluThrGluGlnThrLeuPheArgArgHisGlnIleProProSerCysArgGlnSer-93

119-AsnArgSerPheLysAla-124

147-ThrIleAspAspAsnIleAla-153

161-LysHisHisThrAspLeuAspPheAsnArgGluArgAlaArgIlePheAsnThrAspGlnLeu-181

188-ArgIleValGlyArgLysArgHisPheAspArg-198

209-PheHisGlnArgGluAsnAla-215

244-ArgAsnHisGlyIlePheCysAsnSerHis-253

255-CysProPheArgAsnSerArgLeuIle-263

Hydrophilic Regions - Hopp-Woods

1-MetProThrArgProThrArgAlaAlaAsn-10

37-ThrProHisGluProAlaSer-43

46-CysAlaAlaLysSerAlaAsnArgArgGluAsnSerHis-58

70-AsnLysMetProSerGluThrGluGlnThrLeuPheArg-82

120-ArgSerPheLysAla-124

161-LysHisHisThrAspLeuAspPheAsnArgGluArgAlaArgIlePheAsn-177

188-ArgIleValGlyArgLysArgHisPheAspArg-198

209-PheHisGlnArgGluAsnAla-215

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g242**AMPHI Regions - AMPHI**

25-ValAlaAlaGlnPheValAspPheValGluGln-35
 46-HisIleLeuGlnAsn-50
 100-AlaAspGlnThrGln-104
 122-AsnProPhePheAspPhePheGlnAlaValVal-132
 137-HisGlnSerGlyPheGlyAspValPhe-145
 191-PheGlyHisThrArg-195
 197-PheAspAlaCysLeu-201
 262-HisProPheAlaAspPheGlyAsnLeuGlnAsnLeuLeuAlaLeu-276

Antigenic Index - Jameson-Wolf

14-PheLysGlnArgAlaGlyGlyIleAla-22
 33-ValGluGlnGluGlnArgValSer-40
 54-HisArgAlaAspIleGlyThrAlaValProAla-64
 73-AlaGlnGlyHisThrAspIlePheProProArgCysPheGlyAspGlyPheAlaGlnArgGlyPheAlaHisA
 laArgArgAlaAspGlnThrGlnAsnArgThrPhe-108
 137-HisGlnSerGlyPhe-141
 152-LeuProArgGlnSerGluGlnGlyVal-160
 164-AlaTyrAspGlyGlyPheGlyArgHisArgArgHisHis-176
 283-MetArgCysAspArgIleGly-289

Hydrophilic Regions - Hopp-Woods

14-PheLysGlnArgAlaGlyGlyIle-21
 33-ValGluGlnGluGlnArgVal-39
 54-HisArgAlaAspIle-58
 95-AlaHisAlaArgArgAlaAspGlnThrGlnAsnArgThrPhe-108
 154-ArgGlnSerGluGlnGlyVal-160
 168-GlyPheGlyArgHisArgArgHisHis-176
 283-MetArgCysAspArgIleGly-289

g243**AMPHI Regions - AMPHI**

35-MetThrArgLeuAlaArgLysAlaValGlnArgLeuThrAlaSerHisIleGlnArgPheLeu-55
 80-AspSerSerArgIleThrSerThrIle-88

Antigenic Index - Jameson-Wolf

30-ProSerAsnAlaPro-34
 37-ArgLeuAlaArgLysAlaValGln-44
 55-LeuThrGluSerLysThrGlyAlaAsnArgSerSerSerSerCysLysPro-71
 77-SerAlaSerAspSerSerArgIle-84
 102-SerThrThrGlyAlaValThrLysSer-110

Hydrophilic Regions - Hopp-Woods

37-ArgLeuAlaArgLysAlaValGln-44
 55-LeuThrGluSerLysThrGlyAlaAsnArgSerSerSerSerCysLys-70
 78-AlaSerAspSerSerArgIle-84

g244-1**AMPHI Regions - AMPHI**

13-IleAlaAlaLeuLeuArg-18
 24-AsnAlaLeuGlnGluIleAsnGlnIleIleProGlnThr-36
 76-ArgLeuHisArgLeu-80
 98-LeuArgGlyIleLysArgLeuLeuGlnLeuIleGlnSerHisLeuHisThrHis-115
 150-ArgIleGlyAsnPhe-154
 206-CysLeuAspGlyPheHisArgLeuHis-214
 217-AsnArgPhePheThr-221

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249-IleArgThrPheSerArgAsnPheLysGln-258

Antigenic Index - Jameson-Wolf

1-MetProProGluAlaArgProAlaGlySerAspGly-12
 20-ValTyrThrGlnAsnAla-25
 35-GlnThrProSerGly-39
 43-CysHisArgAsnHisSerArgAlaGlnHis-52
 81-MetAspIleArgIle-85
 91-PheArgIleAspPheLeuAsp-97
 99-ArgGlyIleLysArg-103
 125-IleGlnLysArgHis-129
 134-LeuAspArgGlnHisPheHisGlyLysLeuLeuSerGlyGluLeuValArg-150
 178-PheGlnLeuGlyAsnProArgLeu-185
 191-ArgLeuGlyGlySer-195
 234-LeuLysThrAsnTrpLysSerLysSerGlyTyrTyrProSerLysIleArgThrPheSerArgAsnPheLys
 GlnArgGlnGluIleSerHisProProProAsnThrLeuProGlnLysProTyrLysArg-277

Hydrophilic Regions - Hopp-Woods

1-MetProProGluAlaArgProAlaGlySerAspGly-12
 45-ArgAsnHisSerArgAlaGlnHis-52
 81-MetAspIleArgIle-85
 91-PheArgIleAspPheLeuAsp-97
 99-ArgGlyIleLysArg-103
 236-ThrAsnTrpLysSerLysSer-242
 248-LysIleArgThrPheSerArgAsnPheLysGlnArgGlnGluIleSerHis-264
 273-LysProTyrLysArg-277

g246**AMPHI Regions** - AMPHI

39-AlaValAsnIleAla-43
 55-HisValValCysLysArgCysAlaGluValLeuValGluGlnPheAlaAspLeuPhePhe-74
 83-AspMetGlyArgPhe-87
 132-PheGlyCysAspAspValValAspAsnLeuAlaGlyPheGlyArgGlyPheArgPro-150

Antigenic Index - Jameson-Wolf

1-MetTyrGlyArgAsnGlySerThrGln-9
 17-AspGlnThrGlnArgAlaArgPheGlyAsnGlyGluVal-29
 46-PheAlaGlyGluSerGlyGln-52
 57-ValCysLysArgCysAla-62
 78-AspCysGlyHisHisAspMetGlyArg-86
 92-LeuAspAspLysLeuAla-97
 133-GlyCysAspAspValValAsp-139
 143-GlyPheGlyArgGlyPheArgProVal-151
 165-LeuGlnGlnArgGly-169

Hydrophilic Regions - Hopp-Woods

18-GlnThrGlnArgAlaArgPheGlyAsn-26
 47-AlaGlyGluSerGly-51
 57-ValCysLysArgCysAla-62
 92-LeuAspAspLysLeuAla-97

g247-1**AMPHI Regions** - AMPHI

34-GlyPheIleGlnArgLeu-39
 59-ValValSerSerCysSerLysIleAlaLysProGlyLysLysIleSerThrLeuGlnGlu-78
 105-TyrAlaValGlyArgPheGlyAsn-112
 164-ArgTyrThrAsnLysPheAspLysSerLys-173

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Antigenic Index - Jameson-Wolf

1-ProGlyAlaLysGlnGluAsnProLeuPheSerLeuLysArgSerGlyMetAspLysGlnLeu-21
 26-GluSerIleAspIleLysTyr-32
 48-IleAspAspLeuAspAlaSerAla-55
 62-SerCysSerLysIleAlaLysProGlyLysLysIleSerThrLeuGlnGluAlaLysSer-81
 85-IleThrAsnAspAspLysGlnAsnGlyAsnIleThrArgGlnLysHis-100
 109-ArgPheGlyAsnAsnGluGluSerLeu-117
 120-PheGlnLeuAspAspLysGlyLysTrpGlyAsn-130
 136-LysLysValLysArgMetAspVal-143
 149-SerGlyCysProGluAspGluAspAlaGlyLysGluGluLysPheArgTyrThrAsnLysPheAspLysSer
 LysAsnAlaValThr-177
 193-IleAlaAlaSerSerAspAsnSer-200
 210-IleArgGlyGlyAsnValCysAlaAsnArgThrLeu-221

Hydrophilic Regions - Hopp-Woods

1-ProGlyAlaLysGlnGluAsn-7
 11-SerLeuLysArgSerGlyMetAspLysGlnLeu-21
 26-GluSerIleAspIleLys-31
 48-IleAspAspLeuAspAlaSerAla-55
 64-SerLysIleAlaLysProGlyLysLysIleSerThr-75
 77-GlnGluAlaLysSer-81
 86-ThrAsnAspAspLysGlnAsnGlyAsnIleThrArgGlnLysHis-100
 111-GlyAsnAsnGluGluSerLeu-117
 121-GlnLeuAspAspLysGlyLysTrpGly-129
 136-LysLysValLysArgMetAspVal-143
 151-CysProGluAspGluAspAlaGlyLysGluGluLysPheArgTyr-165
 167-AsnLysPheAspLysSerLysAsnAlaVal-176
 193-IleAlaAlaSerSerAspAsn-199
g248-1

AMPHI Regions - AMPHI

87-SerGluAsnCysGluLysGlyLeu-94
 109-GluAlaPheGlyAsn-113
 122-ValGluAlaValLysArg-127
 153-AlaAlaGlyValSerLysMetProArgTyrIleIleGlu-165
 173-GlnAsnValTyrArgValThrAlaLysAlaTrpGlyLysAsn-186

Antigenic Index - Jameson-Wolf

1-MetArgLysGlnAsnThrLeuThr-8
 11-ProThrSerAspGlyGlnArgGlySer-19
 40-GlnSerTyrAsnThrGluGlnArgIleSerAlaAsnGluSerAspArgLysLeuAla-58
 64-AlaAlaLeuArgGluGlyGluPheGln-72
 78-TyrAlaAlaAspSerLysValThrPheSerGluAsnCysGluLysGlyLeu-94
 101-ArgThrAsnAsnAsnGlySerGluGluAlaPhe-111
 118-GlyLysProAlaValGluAlaValLysArgSerCysProAlaLysSerGlyLysAsnSerThr-138

140-LeuCysIleAspAsnLysGlyMetGluTyrAsnLysGlyAlaAlaGlyValSerLysMetProArgTyrIle
 -163
 168-GlyValLysAsnGlyGlnAsnVal-175
 182-AlaTrpGlyLysAsnAlaAsnThr-189
 197-ValGlyAsnAsnAspGluGln-203

Hydrophilic Regions - Hopp-Woods

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1-MetArgLysGlnAsnThr-6
 11-ProThrSerAspGlyGlnArgGly-18
 42-TyrAsnThrGluGlnArgIleSerAlaAsnGluSerAspArgLysLeuAla-58
 64-AlaAlaLeuArgGluGlyGluPheGln-72
 78-TyrAlaAlaAspSerLysValThrPhe-86
 88-GluAsnCysGluLysGlyLeu-94
 101-ArgThrAsnAsnAsnGlySerGluGluAlaPhe-111
 120-ProAlaValGluAlaValLysArgSerCysProAlaLysSerGlyLysAsnSerThr-138
 140-LeuCysIleAspAsnLysGlyMetGluTyrAsnLys-151
 199-AsnAsnAspGluGln-203

g249-1**AMPHI Regions - AMPHI**

6-CysLeuArgLeuLys-10
 15-GlyMetAlaLeuIleGluValLeuVal-23
 42-ThrValAlaSerValArgGluAla-49
 53-ThrIleValSerGlnIleThrGlnAsnLeuMetGluGlyMet-66
 111-GluGlnLeuLysArgPheSerHisGluLeuLysAsnAlaLeu-124

Antigenic Index - Jameson-Wolf

1-MetLysAsnAsnAspCysLeuArgLeuLysAsnProGlnSerGly-15
 44-AlaSerValArgGluAlaGluThr-51
 70-ProThrIleAspLeuAspSerAsnLysLysAsnTyr-81
 85-MetGlyLysGlnThr-89
 93-ValAspGlyGluPhe-97
 99-LeuAspAlaGluLysSerLysAlaGlnLeuAlaGluGluGlnLeuLysArgPheSerHisGluLeuLysAsnAlaLeu-124
 134-ValCysLysAspSerSerGlyAspAlaProThrLeuSerAspSerGlyAlaPheSerSerAsnCysAspAsnLysAlaAsnGlyAspThrLeu-164
 172-AspSerAlaGlyAspSerAspIleSerArgThrAsnLeuGluValSerGlyAspAsn-190
 197-AlaArgValGlyGlyArgGlu-203

Hydrophilic Regions - Hopp-Woods

1-MetLysAsnAsnAspCysLeuArgLeuLysAsnProGln-13
 44-AlaSerValArgGluAlaGluThr-51
 72-IleAspLeuAspSerAsnLysLysAsnTyr-81
 99-LeuAspAlaGluLysSerLysAlaGlnLeuAlaGluGluGlnLeuLysArgPheSerHisGluLeuLysAsnAlaLeu-124
 134-ValCysLysAspSerSerGlyAspAlaProThrLeuSerAsp-147
 154-AsnCysAspAsnLysAlaAsnGly-161
 173-SerAlaGlyAspSerAspIleSerArgThrAsnLeu-184
 199-ValGlyGlyArgGlu-203

g250**AMPHI Regions - AMPHI**

10-GluPheIleArgGlyIleLysGlu-17
 54-PheAlaGlyGlySerGlu-59
 61-AlaThrValAsnLeuTrpAlaGluPro-69

Antigenic Index - Jameson-Wolf

3-HisThrAlaSerProArgAspGluPheIleArgGlyIleLysGluSerSerPro-20
 34-MetGlnGlyGlyGlnLysGlyMetGlyArgLeu-44
 54-PheAlaGlyGlySerGlu-59

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83-AsnSerArgHisIleLeuMetGlyGlyGly-92
 95-HisAlaHisGluArgAsnThrAlaGluLysSerArgAlaArg-108

Hydrophilic Regions - Hopp-Woods

5-AlaSerProArgAspGluPheIleArgGlyIleLysGluSerSer-19
 36-GlyGlyGlnLysGlyMetGlyArg-43
 95-HisAlaHisGluArgAsnThrAlaGluLysSerArgAlaArg-108
g251

AMPHI Regions - AMPHI

57-ValAlaAspPheGlyGlyIleGluGlyPhe-66
 101-ArgThrValGlyGlyThrValArgLeuLeuLysMetIle-113
 156-AlaArgThrValPheArgAlaHisLeuArg-165
 179-AlaAlaArgValPheAlaValAla-186
 200-LeuGlyGlnGluCysArg-205
 207-ArgHisIleAlaArgValGluSerLeuLeuArgAlaPheGluTyrAla-222

Antigenic Index - Jameson-Wolf

21-LeuArgGlyArgPheGlnArg-27
 48-ValValThrGluValAspAla-54
 90-ArgLeuValGlyThr-94
 120-ProValValArgGluAlaGlyIle-127
 153-ValLysHisAlaArgThrValPhe-160
 196-IleLysAsnArgLeuGlyGlnGluCysArgAsnArgHisIleAlaArgValGluSerLeu-215
 231-LysThrLysThrArgAlaGluGlnProArgProAla-242

Hydrophilic Regions - Hopp-Woods

23-GlyArgPheGlnArg-27
 48-ValValThrGluValAspAla-54
 120-ProValValArgGluAlaGlyIle-127
 153-ValLysHisAlaArgThrValPhe-160
 198-AsnArgLeuGlyGlnGluCysArgAsnArgHisIleAlaArgValGluSerLeu-215
 232-ThrLysThrArgAlaGluGlnProArg-240

g254**AMPHI Regions - AMPHI**

6-ArgPheAsnThrTyrSerHis-12
 32-GlyHisGlyAspGlyTyrArg-38
 66-LysLeuLysSerIleLeuLys-72
 142-ValLeuAlaValMetLysSerLeuThrAlaSer-152

Antigenic Index - Jameson-Wolf

5-GluArgPheAsnThrTyrSer-11
 32-GlyHisGlyAspGlyTyrArg-38
 65-GlyLysLeuLysSerIleLeuLysLysThrAspHis-76
 94-SerLeuArgAsnGlyProGly-100
 120-ThrIleGlyArgLysSerGluLysArgLeuLeu-130
 177-AsnAspGluLysIleArgHisGlyHisGly-186

Hydrophilic Regions - Hopp-Woods

65-GlyLysLeuLysSerIleLeuLysLysThrAspHis-76
 120-ThrIleGlyArgLysSerGluLysArgLeuLeu-130
 177-AsnAspGluLysIleArgHis-183

g255**AMPHI Regions - AMPHI**

23-ValLysThrCysAlaAspPheHisAlaPheAspGlyValAspAlaHisHisArg-40
 71-GlyIleGlnGlyPheAlaHis-77

Antigenic Index - Jameson-Wolf

33-AspGlyValAspAlaHisHisArgValGlyAspPheGlyIleGluAlaValGluAsnGlyPheAlaGlnThrA
spGlyAspValGlyGly-62
67-PheArgAlaAspGlyIleGlnGly-74
91-ValGlyGlyLysLysArgIleLeu-98
115-GlyAsnValGlyGlyAspPheArgAla-123
130-PhePheGlyAsnGlySerGlyGlyAsnAlaGly-140
145-GlyGlyThrProAla-149
168-SerGlyAlaGluGlyGlyGlyAspVal-176

Hydrophilic Regions - Hopp-Woods

33-AspGlyValAspAlaHisHisArgValGlyAspPheGly-45
56-ThrAspGlyAspValGlyGly-62
67-PheArgAlaAspGly-71
92-GlyGlyLysLysArgIleLeu-98
119-GlyAspPheArgAla-123
169-GlyAlaGluGlyGlyGly-174
g256-1

AMPHI Regions - AMPHI

22-AlaLysPheLeuGlnHisPro-28
95-HisPheArgSerCysGlyGlyValAla-103
128-ArgTyrArgGluIleTyrAlaVal-135
143-AlaProAlaLysTyrLeuGlyGluGln-151
179-GlyIleThrArgLeuLeu-184
198-ArgSerLeuGlnGlyPheGlnThrAla-206
208-AlaAlaGlyCysLysThrLeuGlyGluPheAspAspArgPheThrAlaProLeuHisGly-227
234-TyrTyrArgGlnThrSerCysLysProLeuLeuHisValAla-248

Antigenic Index - Jameson-Wolf

4-ThrProProAspThrProPhe-10
12-LeuArgAsnGlyAsnAlaAspThrIleAla-21
27-HisProAlaProAlaTyrArgArgGluMetLeuProAspSerThrGlyLysThrLysThrAlaTyr-48
51-SerAlaGlyGlyIleSerProAspAlaPro-60
68-LeuGluGlySerSerArgSerHisTyr-76
84-ValArgAsnArgGlyTrpHis-90
98-SerCysGlyGlyValAlaAsn-104
113-GlyAspThrAlaGlu-117
125-LeuThrAlaArgTyrArgGlu-131
140-GlyGlyAsnAlaProAlaLysTyrLeuGlyGluGlnGlyLysLysAlaLeuPro-157
167-ValAspAlaGluAlaAlaGlySerArgPheAspSerGlyIle-180
193-LeuIleProLysAlaArgSerLeuGln-201
213-ThrLeuGlyGluPheAspAspArgPheThr-222
228-PheAlaAspArgHisAspTyrTyrArgGlnThrSerCysLysProLeuLeu-244
259-AspProPheLeuProGluAlaLeuProArgAlaAspGluAlaSerGlu-275
283-AlaHisGlyGlyHis-287
292-SerSerThrGlyGlyArgLeu-298
312-AspSerPheArgThrAsnArgArg-319

Hydrophilic Regions - Hopp-Woods

31-AlaTyrArgArgGluMetLeuPro-38
40-SerThrGlyLysThrLysThr-46
69-GluGlySerSerArgSer-74
84-ValArgAsnArgGly-88
125-LeuThrAlaArgTyrArgGlu-131

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147-TyrLeuGlyGluGlnGlyLysLysAlaLeuPro-157
 167-ValAspAlaGluAlaAlaGlySerArgPheAspSerGlyIle-180
 193-LeuIleProLysAlaArgSer-199
 213-ThrLeuGlyGluPheAspArgPheThr-222
 228-PheAlaAspArgHisAspTyrTyrArg-236
 266-AlaLeuProArgAlaAspGluAlaSerGlu-275
 314-PheArgThrAsnArgArg-319

g257**AMPHI Regions** - AMPHI

24-SerPheLeuProAsn-28
 73-AspLeuValAsnLysValLeuAlaGluValAlaArgLeuGluLysMetPhe-89
 109-SerProProAlaAspPheLeuGluLeuLeuSerLeuAlaAlaIlePheThr-125

Antigenic Index - Jameson-Wolf

1-MetGlyArgHisPheGlyArgArgArgPheLeu-11
 32-AlaGlyGlyGluLysArgAsnMetAspLysLysArgAspGluAsn-46
 56-GlySerGlyAlaGlu-60
 65-GlyValAspAspArgGlnAlaAla-72
 83-AlaArgLeuGluLys-87
 92-TyrArgGluAspSerLeuIleSerArgLeuAsnArgAspGlyTyrLeuThrSerProProAlaAspPhe-114

Hydrophilic Regions - Hopp-Woods

4-HisPheGlyArgArgArgPheLeu-11
 33-GlyGlyGluLysArgAsnMetAspLysLysArgAspGluAsn-46
 65-GlyValAspAspArgGlnAlaAla-72
 83-AlaArgLeuGluLys-87
 92-TyrArgGluAspSerLeuIle-98

100-ArgLeuAsnArgAspGlyTyr-106

g259-1**Antigenic Index** - Jameson-Wolf

34-LysAlaTyrThrGluGluLeuProPro-42
 62-ValArgSerLysAlaLysAlaGluLysPheTyrArgGluLysMetIleGln-78
 93-LeuGluHisLysPro-97
 105-LysAsnHisGlyLysGlyMetAlaGluGlnValArgPheLysAla-119
 121-ValLeuProAspAspGluAspAlaArgThrIleAla-132
 144-GlyThrAspAlaValAlaSerGlyGluThrTyrGlyArgVal-157

Hydrophilic Regions - Hopp-Woods

35-AlaTyrThrGluGluLeuPro-41
 62-ValArgSerLysAlaLysAlaGluLysPheTyrArgGluLysMetIleGln-78
 93-LeuGluHisLysPro-97
 106-AsnHisGlyLysGlyMetAlaGluGlnValArgPheLysAla-119
 121-ValLeuProAspAspGluAspAlaArgThrIleAla-132

g260**AMPHI Regions** - AMPHI

12-ProPhePheSerLeuPheArgAlaLeuPheGlu-22
 53-PheIleAspSerValGlyGlnIleThrAlaArgPhePheGlnAlaPhe-68
 151-GlnTyrLeuAlaArgIleAsnGlnValGlyIleValAspLeuIleProValArg-168
 177-ThrGlyCysThrGlyIleCysProLysTyrProThrGlyCysArgPro-192

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Antigenic Index - Jameson-Wolf

30-GlyAlaHisAspAlaAlaGlu-36
 80-ProAlaPheArgAlaArgGluGlnAlaArgArgGlySerGly-93
 97-GlyAsnAspLeuArgValLeuHisLysAspAlaValGluValAspIleAspGlyGlyAsnThrVal-118
 126-ThrAspPheAspAspGlyAspAla-133
 139-AlaGluAlaArgPhe-143
 166-ProValArgAlaProGlnGlyGlyThrIle-175
 183-CysProLysTyrProThrGlyCysArgProVal-193

Hydrophilic Regions - Hopp-Woods

30-GlyAlaHisAspAlaAlaGlu-36
 82-PheArgAlaArgGluGlnAlaArgArgGlySer-92
 98-AsnAspLeuArgValLeuHisLysAspAlaValGluValAspIleAspGly-114
 126-ThrAspPheAspAspGlyAspAla-133
 139-AlaGluAlaArgPhe-143

g261**AMPHI Regions - AMPHI**

19-PheThrPheGlnThr-23

32-AspThrAlaArgAlaPheAlaAlaAla-40
 50-GlyLeuPheAlaAspVal-55

138-ValHisLysGlyIleGlyAsnAlaValValGlyGlyPheAsp-151
 164-GlyValValArgAsnLeu-169
 203-GluGlyAspGlyLeuAspValPheAlaProVal-213
 217-CysLeuAsnGlnAlaGlyGly-223

Antigenic Index - Jameson-Wolf

13-AlaArgSerAspGly-17
 23-ThrPheArgGlnProAla-28
 40-AlaAlaAspAspThrLeu-45
 62-ValArgGlnArgProArgLeuArgLeu-70
 74-HisGlnArgArgValAspLeu-80
 86-ArgGlnIleLysGlyAsnValHisGlyPheAspGluHisAla-99
 111-AlaHisAlaArgAspAspValProAsp-119
 122-ProPheGlyLysAsnGlyGlyValLysGlnGluLysArgValThrProVal-138
 149-GlyPheAspGlyGlyGlyPheAspGlyGlyGly-159
 183-GlnIleLeuArgAspProLeuCysAla-191
 201-ValSerGluGlyAspGlyLeuAsp-208
 219-AsnGlnAlaGlyGlyArgIleLeuThrAlaArgGluAspAspGlnGlyPhe-235

Hydrophilic Regions - Hopp-Woods

13-AlaArgSerAspGly-17
 40-AlaAlaAspAspThrLeu-45
 62-ValArgGlnArgProArgLeuArgLeu-70
 74-HisGlnArgArgValAspLeu-80
 94-GlyPheAspGluHisAla-99
 112-HisAlaArgAspAspValProAsp-119
 127-GlyGlyValLysGlnGluLysArgValThrPro-137
 202-SerGluGlyAspGlyLeu-207
 226-LeuThrAlaArgGluAspAspGlnGly-234

g263**AMPHI Regions - AMPHI**

32-AsnLeuIleGlyValLeuAlaAsnAla-40
 42-GluAlaLeuAlaPheTyrGlnGluValGlyLysLeuAsnAlaAlaAsnSerLeuThr-60

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65-GluValIleArgIle-69
 86-LysLeuAlaThrLeuLysLys-92
 100-AsnAlaAlaArgAlaLeu-105
 115-LeuGlyAlaLeuAlaAlaPheThrGln-123
 137-LeuAsnAlaPheLeuGluAla-143
 157-ValAlaLeuAlaThrLeuCysAsnTyrAlaAsnAsnLeuAla-170

Antigenic Index - Jameson-Wolf

10-GluThrAlaProGluAlaAlaLysProArgValGluAlaValProLysAsnAsnGlyPhe-29
 62-GlyGluValGluVal-66
 73-ArgThrAsnGlnCysSer-78
 97-GlnSerLeuAsnAla-101
 108-GlyLysSerAspAspAlaLysLeu-115
 126-MetAlaLysLysGlyAlaValSerAspAspGluLeu-137
 144-GlyTyrAsnArgGlnGlnAla-150
 172-ThrGluIleAsnProLysLeu-178

Hydrophilic Regions - Hopp-Woods

11-ThrAlaProGluAlaAlaLysProArgValGluAlaValProLys-25
 62-GlyGluValGluVal-66
 97-GlnSerLeuAsnAla-101
 108-GlyLysSerAspAspAlaLysLeu-115
 126-MetAlaLysLysGlyAlaValSerAspAspGluLeu-137

g264**AMPHI Regions - AMPHI**

28-ValValLysProGluLys-33
 40-ArgSerTyrLysValAlaGluPheThrGlnThrGly-51
 85-IleProSerHisValArgVal-91
 113-AsnArgIleIleAspValSer-119
 172-LeuAsnGlnAlaAlaGlnAsnPhe-179

Antigenic Index - Jameson-Wolf

27-AlaValValLysProGluLysLeuHisAlaSerAlaAsnArgSerTyrLys-43
 48-ThrGlnThrGlyAsnAlaSerTrp-55
 57-GlyGlyArgPheHisGlyArgLysThrSerGlyGlyAspArgTyrAsp-72
 91-ValThrAsnThrLysAsnGlyLysSerVal-100
 103-ArgValAsnAspArgGlyProPheHisGlyAsnArgIleIleAspValSerLysAlaAlaAla-123
 142-ValProGlyGlnSerAlaProValAlaGluAsnLysAspIlePheIle-157
 159-LeuLysSerPheGlyThrGluHisGluAla-168
 181-AlaSerSerSerSerProAsnLeuSerValGluLysArgArgTyrGluTyr-197
 205-AlaSerGlnGluArgAlaAlaGluAlaGluAlaGlnAla-217

Hydrophilic Regions - Hopp-Woods

27-AlaValValLysProGluLysLeuHisAlaSerAlaAsnArgSerTyrLys-43
 60-PheHisGlyArgLysThrSerGlyGlyAspArgTyrAsp-72
 92-ThrAsnThrLysAsnGlyLys-98
 104-ValAsnAspArgGlyProPheHis-111
 114-ArgIleIleAspValSerLysAlaAlaAla-123
 148-ProValAlaGluAsnLysAspIlePheIle-157
 160-LysSerPheGlyThrGluHisGluAla-168
 188-LeuSerValGluLysArgArgTyrGluTyr-197
 205-AlaSerGlnGluArgAlaAlaGluAlaGluAlaGlnAla-217

g266**Antigenic Index - Jameson-Wolf**

2-GlnPheArgArgHisArgArgArgGlnCysProAsnArgLysProIle-17

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47-AlaLeuLysArgLysHisPhe-53
 76-SerArgAlaGlyAla-80
 110-TrpHisThrArgAsnArgGlu-116

Hydrophilic Regions - Hopp-Woods

2-GlnPheArgArgHisArgArgGlnCysProAsnArgLysProIle-17
 47-AlaLeuLysArgLysHisPhe-53
 76-SerArgAlaGlyAla-80

g268-1**AMPHI Regions - AMPHI**

42-GluIleLeuValLysLeuValArg-49
 57-ValLysThrPheAspAsp-62
 77-HisIleArgArgMetValGluArg-84
 92-ValArgThrThrGluLysThr-98
 129-IleGlyAsnSerHisLys-134

136-ThrProAspPhePheGluProTyr-143
 169-PheAlaGluLeuSerGlnAlaHisAspIleIleHisProLeuSerGluLeuValSerMet-188
 191-IleLysGluProLeuAspLys-197
 215-AlaArgGluAlaGluGluAlaAla-222
 231-GlnGluAlaAlaArgValSerGluTrp-239
 249-GluPheGluGlnPheTrpLysGlyLeuProGlnThrValGlnAsn-263
 268-SerGlnLysThrTrpLysSerGlyMetAspLys-278

289-GluThrProAsnGlyIleLys-295

Antigenic Index - Jameson-Wolf

1-MetLysLysAsnLeu-5
 16-LeuSerGlyCysAspArgLeuGlyIleGlyAsnProPheSerGlyLysGluIleSerCysGlySerGluGluThrLysGluIleLeu-44
 47-LeuValArgAspAsnValGluGlyGluThrValLysThrPheAspAspAlaPheLysAspGlnAlaPhe-70
 77-HisIleArgArgMetValGlu-83
 85-LeuGlyIleThrValAspGluValArgThrThrGluLysThrAspThrSerSerLysLeuLysCysGluAlaAlaLeu-110
 112-LeuAspValProAspAspValVal-119
 127-GlnSerIleGlyAsnSerHisLysLysThrProAspPhePhe-140
 143-TyrTyrArgLysGluGlyAlaTyr-150
 158-SerValGlnProThrAspAspLysSerLysIle-168
 190-LeuIleLysGluProLeuAspLysAlaLysGlnArgAsnGluLysLeuGluAlaAlaGluAlaThrAlaGlnGluAlaArgGluAlaGluGluAlaAla-223
 226-AlaLeuGlyArgGluGlnGluAlaAlaArgValSerGluTrpGluGluArgTyrLysLeuSerArgSerGluPhe-250

261-ValGlnAsnLysLeuGlnAlaSerGlnLysThrTrpLysSerGlyMetAspLysIleCysAlaAsnAsnAlaLysAlaGluGlyGluThrProAsnGlyIleLysValSerGluLeuAlaCysLysThrAlaGluThrGluAlaArgLeuGluGluLeuHisAsnArgLysLysAlaLeuIle-321
 323-GluMetValArgGluGluAspLysLysGluLeuProLysArgLeu-337

Hydrophilic Regions - Hopp-Woods

1-MetLysLysAsnLeu-5
 18-GlyCysAspArgLeuGly-23
 28-PheSerGlyLysGluIleSerCysGlySerGluGluThrLysGluIleLeu-44

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47-LeuValArgAspAsnValGluGlyGluThrValLysThrPheAspAspAlaPheLysAspGlnAlaPhe-70

77-HisIleArgArgMetValGlu-83

85-LeuGlyIleThrValAspGluValArgThrThrGluLysThrAspThrSerSerLysLeuLysCysGluAlaAlaLeu-110

112-LeuAspValProAspAspValVal-119

131-AsnSerHisLysLysThrProAspPhe-139

143-TyrTyrArgLysGluGly-148

161-ProThrAspAspLysSerLysIle-168

190-LeuIleLysGluProLeuAspLysAlaLysGlnArgAsnGluLysLeuGluAlaAlaGluAlaThrAlaGlnGluAlaArgGluAlaGluGluAlaAla-223

226-AlaLeuGlyArgGluGlnGluAlaAlaArgValSerGluTrpGluGluArgTyrLysLeuSerArgSerGluPhe-250

270-LysThrTrpLysSerGlyMetAspLysIleCys-280

283-AsnAlaLysAlaGluGlyGluThrProAsn-292

294-IleLysValSerGluLeuAlaCysLysThrAlaGluThrGluAlaArgLeuGluGluLeuHisAsnArgLysLysAlaLeuIle-321

323-GluMetValArgGluGluAspLysLysGluLeuProLysArgLeu-337

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AMPHI Regions - AMPHI

36-LysProCysAlaSerLeuAspAlaSerSerAla-46

54-TrpAspPheIleArgAsnThrAlaSerPro-63

73-PheLysThrArgAlaLeuGlyArgPheSer-82

Antigenic Index - Jameson-Wolf

28-TrpSerArgSerAlaPheSerCysLysProCysAla-39

58-ArgAsnThrAlaSerProLysVal-65

73-PheLysThrArgAlaLeuGlyArgPheSerAla-83

90-LeuSerAsnArgGlyValLysLysProLeuSerPheLysSerProSerValGlnValAspThrSerAla-112

117-SerLeuArgSerSer-121

Hydrophilic Regions - Hopp-Woods

60-ThrAlaSerProLysVal-65

73-PheLysThrArgAlaLeuGly-79

93-ArgGlyValLysLysProLeuSer-100

g270

AMPHI Regions - AMPHI

13-LeuLeuThrAlaPheAlaAlaPhe-20

41-AspLeuThrGluGlyCys-46

49-ProAspGlySerArg-53

Antigenic Index - Jameson-Wolf

1-MetAsnLysAsnArgLysLeu-7

41-AspLeuThrGluGlyCysThrLeuProAspGlySerArgValArgAlaAlaAlaValSerThrLysLysProPhe-65

71-HisAlaProAlaGlyThrGlu-77

86-LysAsnMetAspMetGlyPhe-92

95-TyrMetPheGluArgGlnProSerGlyThr-104

114-ValCysValGluGlyArgArgAspPheThrAla-124

128-IleGlySerArgThrPhe-133

Hydrophilic Regions - Hopp-Woods

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1-MetAsnLysAsnArgLysLeu-7
 49-ProAspGlySerArgValArgAla-56
 60-SerThrLysLysProPhe-65
 73-ProAlaGlyThrGlu-77
 96-MetPheGluArgGlnPro-101
 116-ValGluGlyArgArgAspPheThrAla-124
g271-2

AMPHI Regions - AMPHI
 6-MetAlaArgIleTrp-10
 20-SerProCysProAla-24
 29-ProLysSerProAla-33

Antigenic Index - Jameson-Wolf

2-PheSerSerArgMetAlaArg-8
 25-LeuThrThrLysProLysSerProAlaLys-34
 41-ArgSerAsnCysLeu-45
 61-SerSerThrThrGlyAlaProThrSerArg-70
 78-SerAlaSerIleAsnLysAspThrArgMetProAlaSerVal-91
 102-CysCysAlaAsnThrSerLysProProSer-111

Hydrophilic Regions - Hopp-Woods

27-ThrLysProLysSerProAlaLys-34
 80-SerIleAsnLysAspThrArgMet-87
 105-AsnThrSerLysProPro-110
g272-2

AMPHI Regions - AMPHI

44-IleThrArgIleThrAspGlu-50
 70-AlaGluGluPheSerSerThrAsn-77
 106-PheArgAlaIleThrSer-111
 165-IleIleThrIleGluAspProIleGlu-173
 194-AsnTrpMetAlaAlaLeuLysAsnThrLeuArgGlnAla-206
 244-AsnGlnAlaLeuAspArgIleIleAsn-252
 307-GlyAsnIleHisGluIleLysGluValMetLys-317
 328-AspGlnHisLeuTyrGln-333
 343-GlnAspAlaLeuLysAsnAlaAspSer-351

Antigenic Index - Jameson-Wolf

2-PheThrAspGluAsnMetThrAlaLysGluGluLeu-13
 19-HisMetAsnLysAsnLysGlySerAsp-27
 38-MetLysLeuAspGlyLysIleThrArgIleThrAspGluProLeuThrAlaGluLysCysMet-58
 68-LysGlnAlaGluGluPheSerSerThrAsnGlu-78
 85-LeuProAspThrSerArgPheArgVal-93
 109-IleThrSerLysIleProLysPheGluSerLeuAsn-120
 122-ProProAlaLeuLys-126
 128-ValAlaLeuLysLysArgGly-134
 142-ThrGlySerGlyLysSerThrSerLeu-150
 154-IleAspTyrArgAsnGluAsnSerPheGly-163
 168-IleGluAspProIle-172
 176-HisGluHisLysAsnCys-181
 184-ThrGlnArgGluValGlyValAspThrGluAsn-194
 199-LeuLysAsnThrLeuArgGlnAlaProAsp-208
 214-GluIleArgAspArgGluThrMet-221
 241-AsnSerThrAsnGlnAlaLeuAspArg-249
 254-PheProGluGluArgArgGluGlnLeuLeu-263
 278-LeuValProArgAspGlyGlyLysGlyArgValAlaAla-290

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310-HisGluIleLysGluValMetLysLysSerThr-320
 336-GluLysGlyGluIleSerLeu-342
 344-AspAlaLeuLysAsnAlaAspSerAlaHisAspLeu-355
 361-LeuArgSerArgArgAlaGlnSerSerAspProAspLeuGluLeu-375

Hydrophilic Regions - Hopp-Woods

2-PheThrAspGluAsnMetThrAlaLysGluGluLeu-13
 20-MetAsnLysAsnLysGlySerAsp-27
 38-MetLysLeuAspGlyLysIleThrArgIleThrAspGluProLeuThrAlaGluLysCysMet-58
 68-LysGlnAlaGluGluPheSerSer-75
 87-AspThrSerArgPheArgVal-93
 112-LysIleProLysPheGluSer-118
 128-ValAlaLeuLysLysArgGly-134
 143-GlySerGlyLysSerThrSer-149
 155-AspTyrArgAsnGluAsnSer-161
 168-IleGluAspProIle-172
 176-HisGluHisLysAsn-180
 184-ThrGlnArgGluValGlyValAspThr-192
 201-AsnThrLeuArgGlnAlaPro-207
 214-GluIleArgAspArgGluThrMet-221
 245-GlnAlaLeuAspArg-249
 255-ProGluGluArgArgGluGlnLeuLeu-263
 278-LeuValProArgAspGlyGlyLysGlyArgValAlaAla-290
 310-HisGluIleLysGluValMetLysLysSerThr-320
 336-GluLysGlyGluIleSerLeu-342
 344-AspAlaLeuLysAsnAlaAspSerAlaHisAspLeu-355
 361-LeuArgSerArgArgAlaGlnSerSerAspProAspLeuGluLeu-375

g274**AMPHI Regions - AMPHI**

31-TyrLysAspGlyLys-35
 111-GluAlaValPheLys-115

Antigenic Index - Jameson-Wolf

25-LeuValThrAspAspTyrTyrLysAspGlyLysHisIleAsp-38
 40-GlnLeuHisArgAspGluGluAlaValArgArgHisIle-52
 60-ProAspMetAsnAla-64
 71-GlyGluPheAspGlyLysGlnPro-78
 85-HisProThrArgLysAlaAspAspGlnThrVal-95
 99-ProValGlySerAlaGlnAsnGlyArgAlaGluTyr-110
 116-ThrLeuProProAlaAsnHis-122
 126-ArgValGluAspAlaGly-132
 136-ValGluAsnLysTrpIleThrSerGlnGlyAsnAlaValAspLeuThrProMetAspLysLeuPheAsnAsn
 AlaGlySerLys-163

Hydrophilic Regions - Hopp-Woods

29-AspTyrTyrLysAspGlyLysHisIleAsp-38
 40-GlnLeuHisArgAspGluGluAlaValArgArgHisIle-52
 72-GluPheAspGlyLysGln-77
 86-ProThrArgLysAlaAspAspGlnThrVal-95
 104-GlnAsnGlyArgAlaGluTyr-110
 126-ArgValGluAspAlaAlaGly-132
 151-ThrProMetAspLysLeuPhe-157

g276**AMPHI Regions - AMPHI**

19-ArgArgTrpAlaThrMetMet-25

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60-SerPheLysMetAlaArg-65
 80-ProPheAspProMetGlyTrp-86
 115-GlyArgLeuTyrArgThrPheSerAsn-123
 164-ThrLysArgGlyArgArgLeuThr-171
 207-SerThrSerThrLeuArgLysLeuMetArgProSerThr-219

Antigenic Index - Jameson-Wolf

9-MetMetArgSerAlaAspSerThrVal-17
 29-PheSerIleArgArgSerSerAlaCysTrpThrArgArgSerAspSerLeuSer-46
 52-SerSerAsnAsnAsnIle-57
 67-MetAlaThrArgCysArgCysProProAspLysLeuLeuPro-80
 82-AspProMetGlyTrp-86
 88-SerProSerGlyAspAlaSerIleArg-96
 103-TrpArgAlaAspArgThrSerAlaSerProAlaSerGlyArgLeuTyr-118
 121-PheSerAsnArgValSerSerAsnArgAsnThrSerTrpGluThrArgAlaAsnTrpAlaArgArgGlnSerLeu-146
 158-LeuProAlaAspGlySerThrLysArgGlyArgArgLeuThrThr-172
 176-ProLeuProGluArgProThrArgAlaThrArgSerProCysLeu-190
 194-LeuLysLeuSerArg-198
 200-LeuMetProSerGluArgTyrSerThrSerThrLeuArgLysLeuMetArgProSerThrArgCysGlyAla-223
 229-CysSerGlyGlyValSerArgAsnAlaHisThrProSerAlaAlaArgAsn-245

Hydrophilic Regions - Hopp-Woods

29-PheSerIleArgArgSerSer-35
 38-TrpThrArgArgSerAspSerLeu-45
 67-MetAlaThrArgCysArgCysProProAspLys-77
 90-SerGlyAspAlaSerIleArg-96
 104-ArgAlaAspArgThrSerAla-110
 124-ArgValSerSerAsnArgAsnThrSerTrpGluThr-135
 137-AlaAsnTrpAlaArgArgGlnSerSer-145
 161-AspGlySerThrLysArgGlyArgArgLeuThrThr-172
 176-ProLeuProGluArgProThrArgAlaThrArg-186
 194-LeuLysLeuSerArg-198
 200-LeuMetProSerGluArgTyrSer-207
 210-ThrLeuArgLysLeuMetArgProSerThrArgCys-221
 232-GlyValSerArgAsnAlaHis-238

g277-2**AMPHI Regions** - AMPHI

39-GlyIleAlaValPheGluValValGlyArgLeuLeuAspPheValLeu-54
 72-AsnGluValIleAspValPheHisAlaLeuGln-82
 87-AlaPheAspAlaValGlyAsnPheAlaGluTyrGlyArgAlaIleAspThrAlaAspLeuLeuGluIleGlyLysLeuGlyTyrPheHis-116
 180-AlaValGlyValValAlaValAla-187

Antigenic Index - Jameson-Wolf

1-MetProArgPheGluAspGlnLeuValGlyArgXxxGlyLysAla-15
 68-ArgPheCysProAsnGluVal-74
 96-GluTyrGlyArgAlaIleAspThr-103
 118-ValGluProAspPheProAlaGlnThrProArgThrGluGlyGly-132
 138-PheAspLysAlaAspValVal-144
 162-AspIleGlyGlyGlyGlyPheGluGlyAspLeu-172
 196-LeuAspValGlyGlyLysProArgLeuGlyAlaGluArgAlaGlnAlaGlyGlyGlyMetGlyCysAlaGlyThrAspPheHis-223
 226-GlyLeuAspAspGlyAla-231

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237-GluGlyLeuGlnPheGluAspAspLeuLeuGluGlyLysHisGlyLeu-252

Hydrophilic Regions - Hopp-Woods

2-ProArgPheGluAspGlnLeuVal-9
 96-GluTyrGlyArgAlaIleAspThr-103
 118-ValGluProAspPhe-122
 126-ThrProArgThrGluGly-131
 138-PheAspLysAlaAspValVal-144
 167-GlyPheGluGlyAspLeu-172
 198-ValGlyGlyLysProArgLeuGlyAlaGluArgAlaGlnAla-211
 226-GlyLeuAspAspGlyAla-231
 239-LeuGlnPheGluAspAspLeuLeuGluGlyLysHisGlyLeu-252

g278-2**AMPHI Regions - AMPHI**

20-IleGlyProLeuProSerIleGlyArg-28
 42-ThrGlyThrSerLys-46
 101-ArgThrIleProSerValThrGluIleThrValProArgValLeuThrSerAlaPhe-119
 123-PheSerIleLeuAlaLeuIleArgSerLeuIleSer-134
 157-LeuTyrArgGlnIleGlnAsnLeuIleThrHisPheAsnPheTyrAlaAla-173
 189-GluThrLeuIleGlnHisLeuArgGlnLeuAlaAsp-200

Antigenic Index - Jameson-Wolf

25-SerIleGlyArgProAsnAlaSerThrThrArgProThrAsnSerArgProThrGlyThrSerLysIleArgPro-49
 63-SerProAsnThrThrAlaProThrGluSerArgSerArgPheIleAla-78
 80-ProLysValLeuProGlyAsnSerSerIle-89
 93-IleAlaSerAspLysProTrpMetArg-101
 119-PheThrAspArgPheSer-124
 146-ArgHisSerArgValGlnSerThr-153
 178-PheAspPheAspArgAspPheGlnLeu-186
 209-ThrValAsnAspGlyArgPheAspMetValGlu-219

Hydrophilic Regions - Hopp-Woods

27-GlyArgProAsnAlaSerThrThrArgProThrAsnSerArgProThrGlyThrSerLysIleArgPro-49
 68-AlaProThrGluSerArgSerArgPheIleAla-78
 93-IleAlaSerAspLysProTrp-99
 146-ArgHisSerArgValGln-151
 178-PheAspPheAspArgAspPhe-184
 211-AsnAspGlyArgPheAspMetValGlu-219

g279**AMPHI Regions - AMPHI**

6-GlyCysLeuIleSer-10
 58-LeuProAlaIleThrThr-63

Antigenic Index - Jameson-Wolf

28-GlnTrpGluGlyThrAspThrGlySerGlyArgAlaArgLeuAla-42
 64-CysProGlyGluLeuLysLeuThr-71
 74-ThrThrSerProCysAlaAspSer-81
 88-CysSerSerSerLysProLysMet-95
 102-ProCysGlyThrAlaAspCysIleSerSerAlaArgArgArgThrSerLeu-118
 120-AlaSerAlaLysSerAsnAlaSer-127
 148-ProProThrSerLys-152

Hydrophilic Regions - Hopp-Woods

29-TrpGluGlyThrAspThrGlySerGlyArgAlaArgLeuAla-42

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66-GlyGluLeuLysLeu-70
89-SerSerSerLysProLysMet-95
110-SerSerAlaArgArgArgThrSerLeu-118
120-AlaSerAlaLysSerAsnAla-126
g280
AMPHI Regions - AMPHI
27-SerPheSerIleLeuGlyAspValAlaLys-36
64-AspIleLysLysIleArgSerAla-71
85-AspIleGlnArgAlaValLys-91
97-TyrAlaGluAlaThrLysGlyIleGlnProLeuLys-108
150-AspTyrAlaGlnAsnValAlaGluThrLeuIleLys-161
237-ValAlaAlaIleIleArgGlnIleLys-245
247-GluGlyIleLysAlaValPheThrGlu-255
258-LysAspThrArgMetValAspArgIleAlaLysGluThr-270
278-LeuTyrSerAspAlaLeuGlyAsnAlaProAlaAspThrTyrIle-292

Antigenic Index - Jameson-Wolf
38-IleGlyGlyGluArgValAla-44
51-AlaAsnGlnAspThrHis-56
61-ThrSerGlyAspIleLysLysIleArgSerAlaLys-72
82-GluAlaAlaAspIleGlnArgAlaValLysGlnSerLysValSerTyrAlaGluAlaThrLysGlyIleGln-105
107-LeuLysAlaGluGluGluGlyGlyHisHisHisAspHisHisHisAspHisAspHisAspHisGluGlyHisHisHisAspHisGlyGluTyrAspProHisValTrpAsnAspProValLeu-147
158-ThrLeuIleLysAlaAspProGluGlyLysValTyrTyr-170
180-GlnLeuLysLysLeuHisSerAspAla-188
196-ProAlaAlaLysArgLysValLeuThr-204
212-MetGlyAsnArgTyr-216
224-GlnGlyValSerSerGluAlaGluProSerAlaLysGln-236
242-ArgGlnIleLysArgGluGlyIle-249
255-GluAsnIleLysAspThrArgMetValAspArgIleAlaLysGluThrGlyVal-272
274-ValSerGlyLysLeuTyrSer-280
286-AlaProAlaAspThr-290
295-TyrArgHisAsnVal-299

Hydrophilic Regions - Hopp-Woods
38-IleGlyGlyGluArgValAla-44
63-GlyAspIleLysLysIleArgSerAlaLys-72
82-GluAlaAlaAspIleGlnArgAlaValLysGlnSerLys-94
99-GluAlaThrLysGly-103
107-LeuLysAlaGluGluGluGlyGlyHisHisHisAspHisHisHisAspHisAspHisAspHisGluGlyHisHisHisAspHisGlyGluTyrAsp-138
158-ThrLeuIleLysAlaAspProGluGly-166
180-GlnLeuLysLysLeuHisSerAspAla-188
196-ProAlaAlaLysArgLysValLeuThr-204
226-ValSerSerGluAlaGluProSerAlaLysGln-236
242-ArgGlnIleLysArgGluGlyIle-249
255-GluAsnIleLysAspThrArgMetValAspArgIleAlaLysGluThrGlyVal-272
g281
AMPHI Regions - AMPHI
62-AlaAlaGlyMetLeuMetAlaLeuLeuAlaGlyLeuValSerArgPhe-77
126-LeuGlnLeuIleAlaAlaValSerGlyLeuThr-136
179-LeuValSerGlyPheGlnAlaLeuGlyIleLeu-189
216-SerValLeuIleAlaLeuPheCysGlyLeuIleGlyLeu-228

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Antigenic Index - Jameson-Wolf

25-ArgArgMetSerLeu-29
 78-ThrThrLeuLysGluAspAlaAsn-85
 102-SerLysAsnGlySerSerVal-108
 158-LysSerValAsnGlyLysGlyGly-165
 236-IleProSerGlyPro-240
 256-LeuGlyLysGluGlyGlyIle-262
 266-TrpPheLysAsnHisArgHisHisThrThr-275

Hydrophilic Regions - Hopp-Woods

25-ArgArgMetSerLeu-29
 78-ThrThrLeuLysGluAspAlaAsn-85
 103-LysAsnGlySerSer-107
 256-LeuGlyLysGluGlyGlyIle-262
 270-HisArgHisHisThr-274

g282**AMPHI Regions - AMPHI**

10-LeuIleValAlaLeuLeuValLeuIleAsnProPheSerAlaLeu-24
 50-ValPheAlaValIleAlaValPheAlaLeuIleGlyGlyAlaLeu-64
 112-ArgProAlaArgAsn-116
 176-ValSerArgLeuLeu-180
 186-ThrIleLeuAsnArgIleMetGlyMet-194

Antigenic Index - Jameson-Wolf

31-ThrAsnGlyHisSerThrLysGluArgArgLysValAlaArg-44
 92-AsnGlyAsnAspAsnProAlaLysGlnAsnLeuGlyAlaGlnProGluThrGlyGlnAlaArgProAlaArgAlaGly-118

Hydrophilic Regions - Hopp-Woods

34-HisSerThrLysGluArgArgLysValAlaArg-44
 92-AsnGlyAsnAspAsnProAlaLysGlnAsnLeu-102
 104-AlaGlnProGluThrGlyGlnAlaArgProAlaArgAsn-116

g283**AMPHI Regions - AMPHI**

32-GlyGlyAsnSerTyrSerAspValProLysGlnLeuHis-44
 48-SerGlnIleLeuAsnLeu-53

Antigenic Index - Jameson-Wolf

28-TrpLysAspGlyGlyGlyAsnSerTyrSerAspValProLysGlnLeuHisProAspGlnSerGln-49
 55-ThrLeuGlnThrLysProAlaValLysProLysProAlaValAspThrAsnAlaAspSerAlaLysGluAsnGluLysAspIleAlaGluLysAsnGlyGlnLeuGluGluGluLysLysLysIleAlaGluThrGluArgGlnAsnLysGluGluAsnCysArgIleSerLysMetAsnLeu-115
 119-GlyAsnSerAsnAlaLysAsnLysAspAspLeuIleArgLysTyrAsnAsnAlaValAsnLysTyrCysArg-142

Hydrophilic Regions - Hopp-Woods

35-SerTyrSerAspValProLys-41
 43-LeuHisProAspGlnSerGln-49
 60-ProAlaValLysProLysProAlaValAspThrAsnAlaAspSerAlaLysGluAsnGluLysAspIleAlaGluLysAsnGlyGlnLeuGluGluGluLysLysLysIleAlaGluThrGluArgGlnAsnLysGluGluAsnCysArgIleSerLysMetAsnLeu-115
 121-SerAsnAlaLysAsnLysAspAspLeuIleArgLysTyrAsn-134

g284-2**AMPHI Regions - AMPHI**

43-GluAlaPheAlaGlyPhePheGluThrVal-52

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61-ThrPheAlaAlaArgPhe-66
 125-ValAspPheAspValPhe-130
 154-ValValPheArgLeuPheArgGln-161
 174-AsnThrAlaCysGlyAsnValGlyGly-182
 186-PheAlaAlaAlaPhe-190
 216-PheValGlnPheIleArgAspAspPheGlyHisArg-227
 277-PheArgValPheGlyGlnPheAlaArgGlnPheAlaAspCysAlaVal-292
 310-AspGlyPheAspValValAspLys-317
 342-LeuHisGlnValArgGlnThrAlaArgSerGlyAspAsnGlnIleAspArgPheAlaGln-361
 381-AlaHisIlePheGly-385
 387-ArgGlnCysValPhe-391
 408-ArgAlaPheAlaArgPhePheAlaAlaPheGlyGlnSerLeuGlnSer-423

Antigenic Index - Jameson-Wolf

1-MetProSerGluThrArgAsnArgPhe-9
 107-HisAlaPheAspGlyGlnPhe-113
 132-HisPheGlyLysArgAsnArgAsnThrArgAla-142
 147-GlyAlaProAspAlaVal-152
 167-ValGlyAsnGlyArgTyrVal-173
 178-GlyAsnValGlyGlyAsnGlnAsn-185
 192-GlnIleArgGlnArgAlaVal-198
 209-AlaValGlyGlyGlu-213
 219-PheIleArgAspAspPheGlyHisArgPheGlyGlyArgGluAsnHisThr-235
 292-ValProSerGlyGlyGluGlnXxxSer-300
 303-ValGlyArgGlyGlyPheHisAspGlyPheAspValValAspLysAlaHis-319
 346-ArgGlnThrAlaArgSerGlyAspAsnGlnIleAspArgPheAla-360
 362-GlyAlaGlyLeuValAlaGluArgCysAlaAlaAspAspAlaAspGlyAlaGluPro-380
 393-AspLeuArgArgGlnPheAlaGlyArgCysGlnHisGlnArgAlaArgAla-409
 419-GlnSerLeuGlnSerArg-424

Hydrophilic Regions - Hopp-Woods

1-MetProSerGluThrArgAsnArgPhe-9
 134-GlyLysArgAsnArgAsnThrArgAla-142
 193-IleArgGlnArgAlaVal-198
 220-IleArgAspAspPheGlyHis-226
 228-PheGlyGlyArgGluAsnHisThr-235
 294-SerGlyGlyGluGlnXxx-299
 313-AspValValAspLysAlaHis-319
 346-ArgGlnThrAlaArgSerGlyAspAsnGlnIleAspArgPheAla-360
 366-ValAlaGluArgCysAlaAlaAspAspAlaAspGlyAlaGlu-379
 393-AspLeuArgArgGlnPheAla-399
 402-CysGlnHisGlnArgAlaArgAla-409
g285-1

AMPHI Regions - AMPHI

15-ValCysPheLeuGly-19
 34-GlnIleProSerTrp-38
 50-GlyThrLeuLeuAspGlyPheAsp-57
 115-GlnGlyLeuProAspSerIleAspLeuPro-124
 208-HisSerThrAlaArg-212
 240-HisProPheAlaGluSerLeuAspLysThrLeuGluGluValLeu-254
 266-ValProSerLeuPro-270
 280-AlaIleProSerPheSerAsp-286

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313-GlnValLeuGlyGly-317
 592-IleGlyLysAlaAlaAspIle-598
 671-GlyIleAsnArgGluLeuThrArgTrp-679
 745-LeuHisIleAlaGluLeuHisAsnPheLysProProPhe-758
 836-PheGlyGlyAsnMetAlaAsn-842
 848-ArgIleThrAlaSerLeu-853

 855-AspLeuGlyAlaLeu-859
 868-GlnAsnIleThrGlySer-873
 955-GlySerIleAlaAsp-959
 1008-ThrAlaGluLeuSer-1012
 1061-ValThrGlyMetIleLys-1066
 1137-GlyAsnValArgGlyValGlyThrValArg-1146
 1165-ThrValSerPheValGlyProLeuAsn-1173
 1190-AlaGlyValGluIleLeuGlySerLeuAsn-1199
 1244-LeuAlaGlyGlnIle-1248
 1305-VallLysLeuIleTyrArgLeuThrArgAlaIleGlnAlaValAlaArgIleGlySer-1323
 1335-ArgPheAspArgLeuPheGly-1341

Antigenic Index - Jameson-Wolf

43-IleSerSerGlnAsnLeuLysGlyThrLeuLeuAspGlyPheAspGlyAspAsnTrpSerIleGluThrGluGlyAlaAspLeuLysIleSerArg-74
 80-LysProSerGluLeuMetArgArgSerLeuHis-90
 104-LysProThrProProLysGluGluArgProProGlnGlyLeuProAspSerIleAsp-122
 130-AspArgPheGluThrGlyLysIleSerMetGlyLysThrPheAspLysGlnThrValTyr-149
 157-TyrArgTyrAspArgLysGlyHisArgLeuAspLeuLysAlaAlaAspThrProTrpSerSerSerSerGlySerAla-182
 185-GlyLeuLysLysProPheAla-191
 198-ThrLysGlyGlyPheGluGlyGluThrIle-207

 209-SerThrAlaArgLeuSerGlySerLeuLysAspValArgAla-222

 224-LeuThrIleAspGlyGlyAsnIleArgLeuSerGlyLysSer-237
 244-GluSerLeuAspLysThrLeuGlu-251

 268-SerLeuProAspAla-272

 292-GlySerLeuAspLeuGluAsnThrLys-300
 302-GlyPheAlaAspArgAsnGlyIleProVal-311
 320-IleArgGlnAspGlyThrVal-326
 337-GlyArgGlyGlyIleArgLeuSerGlyLysIleAspThrGluLysAspIleLeu-354
 362-SerValGlyAlaGluAspValLeu-369
 372-AlaPheLysGlyArgLeuAspGlySerIle-381
 386-ThrThrAlaSerProLysIle-392
 397-GlyThrGlyThrAlaArgThrAspGlySerLeu-407
 411-SerAspProAlaAsnGluGlnArgLysLeuVal-421
 428-SerAlaGlyGluGlySerLeuThr-435
 442-LeuPheLysAspArgLeuLeuLysLeuAspIleArgSerArgAlaPheAspProSerArgIleAspProGlnPheProAlaGlyAspIleAsnGly-473
 480-GluLeuAlaLysGluLysPheThrGlyLys-489
 508-IleValTyrGluSerArgHisLeuProArgAlaAlaVal-520
 522-LeuArgLeuGlyArgAsnIleValLysThrAspGlyGlyPheGlyLysLysGlyAspArgLeuAsn-543
 548-AlaProAspLeuSerArgPheGly-555

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563-AsnValArgGlyHisLeuSerGlyAspLeuAspGlyGlyIleArgThrPheGluThrAspLeuSerGlyThr
AlaArg-588
594-LysAlaAlaAspIleArgSer-600
605-LeuLysGlySerProGlyThrSerArgProMetArgAlaAspIleLysGlyGlyArgLeu-624

641-GluGlyThrGlyAla-645

647-HisArgIleArgThr-651
657-LeuAspGlyLysProPheLysLeuAspLeuAspAlaSerGlyGlyIleAsnArgGluLeuThrArgTrpLys
GlySerIle-683
696-LeuGlnAsnArgMetThrLeu-702

729-SerTrpAspArgLysThrGlyIleSerAlaLysGlyGlyAlaArgGly-744

764-LeuAsnGlyAspTrp-768
774-HisAsnAlaArgGly-778
782-IleSerArgGlnSerGlyAspAlaValLeu-791

803-SerLeuLysThrArgPheGlnAsnAspArgIleGly-814
817-LeuAspGlyGlyAlaArgPheGlyArgIleAsnAla-828
844-ProLeuGlyGlyArgIleThr-850

880-IleGlyGlyArgValGlySerProSerVal-889
893-ValAsnGlySerSerAsnTyrGlyLysIleAsnGly-904
908-ValGlyGlnSerArgSerPheAspThrAlaProLeuGlyGlyArg-922
928-AlaAspAlaGluAlaPhe-933
941-GlnThrValLysGlySerLeu-947
956-SerIleAlaAspProHisLeuGlyGly-964

966-IleAsnGlyAspLysLeuTyrArgAsnGlnThr-977
982-LeuAspAsnGlySerLeuArg-988
991-IleAlaGlyArgLysTrpVal-997
1001-LeuLysPheArgHisGluGlyThrAlaGluLeuSerGly-1013

1015-ValSerMetGluAsnSerValProAspValAspIle-1026
1031-AspLysTyrArgIleLeuSerArgProAsnArgArgLeuThr-1044
1047-GlyAsnThrArgLeuArgTyrSerProGlnLysGlyIle-1059
1065-IleLysThrAspGlnGlyLeuPheGlySerGlnLysSerSerMetProSerValGlyAspAspVal-1086
1091-GluValLysLysGluAlaAlaAla-1098
1109-AspLeuAsnAspGlyIleArgPhe-1116
1134-GlnProGlyGlyAsnValArgGlyValGly-1143
1146-ArgValIleLysGlyArgTyrLysAlaTyrGlyGlnAspLeuAspIleThrLysGlyThr-1165
1171-ProLeuAsnAspProAsnLeuAsnIleArgAlaGluArgArgLeuSerProValGly-1189
1197-SerLeuAsnSerProArgIle-1203
1207-AlaAsnGluProMetSerGluLysAspLysLeu-1217
1225-AlaGlySerGlySerSerGlyAspAsnAlaAla-1235
1246-GlyGlnIleAsnAspArgIleGlyLeu-1254

1256-AspAspLeuGlyPheThrSerLysArgSerArgAsnAlaGlnThrGlyGluLeuAsnProAlaGlu-1277
1283-GlyLysGlnLeuThrGlyLys-1289
1298-IleSerSerAlaGluGlnSerVal-1305
1321-IleGlySerArgSerSerGlyGlyGluLeu-1330
1335-ArgPheAspArgLeuPheGlySerAspLysLysAspSerAlaGlyAsnGlyLysGlyLys-1354

Hydrophilic Regions - Hopp-Woods

56-PheAspGlyAspAsnTrpSerIleGluThrGluGlyAlaAspLeuLysIleSerArg-74
 83-GluLeuMetArgArgSerLeuHis-90
 105-ProThrProProLysGluGluArgProProGlnGlyLeu-117
 130-AspArgPheGluThrGlyLys-136
 141-LysThrPheAspLys-145
 157-TyrArgTyrAspArgLysGlyHisArgLeuAspLeuLysAlaAlaAsp-172
 200-GlyGlyPheGluGlyGluThrIle-207
 215-GlySerLeuLysAspValArgAla-222

 244-GluSerLeuAspLysThrLeuGlu-251

 292-GlySerLeuAspLeuGluAsnThrLys-300
 302-GlyPheAlaAspArgAsnGlyIlePro-310
 320-IleArgGlnAspGly-324
 343-LeuSerGlyLysIleAspThrGluLysAspIleLeu-354
 364-GlyAlaGluAspValLeu-369
 373-PheLysGlyArgLeuAspGly-379
 400-ThrAlaArgThrAspGly-405
 411-SerAspProAlaAsnGluGlnArgLysLeuVal-421
 429-AlaGlyGluGlySerLeu-434
 442-LeuPheLysAspArgLeuLeuLysLeuAspIleArgSerArgAlaPheAspProSerArgIleAspPro-464

 480-GluLeuAlaLysGluLysPheThrGly-488
 508-IleValTyrGluSerArgHisLeuPro-516

 522-LeuArgLeuGlyArgAsnIleValLysThrAspGlyGlyPheGlyLysLysGlyAspArgLeuAsn-543
 570-GlyAspLeuAspGlyGlyIleArgThrPheGluThrAspLeuSerGlyThrAla-587
 594-LysAlaAlaAspIleArgSer-600
 607-GlySerProGlyThrSerArgProMetArgAlaAspIleLysGlyGlyArg-623
 647-HisArgIleArgThr-651
 657-LeuAspGlyLysProPheLysLeuAspLeuAspAla-668

 670-GlyGlyIleAsnArgGluLeuThrArgTrpLysGly-681
 729-SerTrpAspArgLysThrGlyIleSerAlaLysGlyGlyAlaArg-743
 783-SerArgGlnSerGly-787
 806-ThrArgPheGlnAsnAspArgIle-813
 819-GlyGlyAlaArgPheGlyArgIleAsnAla-828
 928-AlaAspAlaGluAlaPhe-933
 1001-LeuLysPheArgHisGluGlyThrAlaGluLeu-1011

 1019-AsnSerValProAspValAspIle-1026
 1031-AspLysTyrArgIleLeuSerArgProAsnArgArgLeuThr-1044
 1049-ThrArgLeuArgTyrSerPro-1055

 1065-IleLysThrAspGln-1069
 1075-GlnLysSerSerMet-1079

 1091-GluValLysLysGluAlaAlaAla-1098
 1109-SerLeuAsnAspGlyIleArg-1115
 1146-ArgValIleLysGlyArgTyrLysAlaTyrGlyGlnAspLeuAspIleThrLys-1163
 1179-IleArgAlaGluArgArgLeuSer-1186
 1209-GluProMetSerGluLysAspLysLeu-1217
 1225-AlaGlySerGlySerSerGlyAspAsnAlaAla-1235

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1248-IleAsnAspArgIleGlyLeu-1254

1259-GlyPheThrSerLysArgSerArgAsnAlaGlnThrGlyGluLeuAsnPro-1275

1300-SerAlaGluGlnSerVal-1305

1321-IleGlySerArgSerSerGlyGly-1328

1340-PheGlySerAspLysLysAspSerAlaGlyAsnGlyLysGlyLys-1354

g286-2**AMPHI Regions - AMPHI**

69-GluIleLysAspMetVal-74

102-ProAspAsnValLysThr-107

145-ValAlaIleLeuGlyAsp-150

157-LeuAlaGluTyrTyrArgAsnAlaLeuGluAsnTrpGlnGlnProValGlySer-174

199-LeuAlaLysLeuGlyAsn-204

238-ThrGlnArgTyrProGluGlnThrValSerGlyLeuAlaArgPheGlnProGlyThr-256

326-AspTyrTyrAsnLeuPheAsnLys-333

354-IleSerGlnProArg-358

375-ThrThrGlnAsnLeu-379

428-ThrAlaSerTrpLysArgGlnLeuLeu-436

455-ThrLeuGlyThrPheLeu-460

513-GlyAlaSerSerVal-517

555-LeuSerGlyAlaValPheHisAspMetGlyAspAlaAlaAlaAsn-569

584-ArgTrpPheSerProLeu-589

Antigenic Index - Jameson-Wolf

1-MetHisAspThrArgThrMetMet-8

30-AlaAspLeuSerGluAsnLysAla-37

43-PheLysSerLysSerProAspThrGluSerValLysLeuLysProLysPheProVal-61

63-IleAspThrGlnAspSerGluIleLysAspMetValGluGluHisLeu-78

83-GlnGlnGlnGluGluValLeuAspLysGluGlnThr-94

97-LeuAlaGluGluAlaProAspAsnValLysThrMetLeuArgSerLysGlyTyrPheSerSerLysValSerLeuThrGluLysAspGlyAla-127

133-ThrProGlyProArgThrLysIle-140

151-IleLeuSerAspGlyAsnLeuAlaGluTyrTyrArgAsnAlaLeuGluAsnTrpGln-169

172-ValGlySerAspPheAspGlnAspSerTrpGluAsnSerLysThrSerVal-188

192-ValThrArgLysGlyTyrPro-198

201-LysLeuGlyAsnThrArgAlaAlaValAsnProAspThrAlaThrAla-216

223-AspSerGlyArgProIleAla-229

234-GluIleThrGlyThrGlnArgTyrProGluGlnThrVal-246

252-PheGlnProGlyThrProTyrAspLeu-260

270-LeuGluGlnAsnGlyHisTyrSerGly-278

283-AlaAspPheAspArgLeuGlnGlyAspArgValProVal-295

298-SerValThrGluValLysArgHisLysLeuGluThrGlyIleArgLeuAspSerGluTyrGlyLeuGlyGly-321

342-AspMetAspLysTyrGluThr-348

355-SerGlnProArgAsnTyrArgGlyAsnTyrTrp-365

368-AsnValSerTyrAsnArgSerThrThrGlnAsnLeuGluLysArgAlaPheSerGlyGly-387

391-ValArgAspArgAlaGlyIleAspAlaArgLeuGly-402

405-PheLeuAlaGluGlyArgLysIleProGlySerAspValAspLeuGlyAsnSerHis-423

430-SerTrpLysArgGlnLeu-435

441-HisProGluAsnGlyHisTyrLeuAspGlyLysIle-452

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468-ThrSerAlaArgAlaGly-473
 476-PheThrProGluAsnLysLysLeu-483
 496-ValAlaArgAspAsnAlaAspValProSer-505
 509-PheArgSerGlyGlyAlaSerSerValArgGlyTyrGluLeuAspSer-524
 534-ValLeuProGluArgAlaLeu-540
 562-AspMetGlyAspAla-566

568-AlaAsnPheLysArgMetLysLeuLysHisGlySerGlyLeu-581
 598-TyrGlyHisSerAspLysLysIleArg-606

Hydrophilic Regions - Hopp-Woods

1-MetHisAspThrArgThrMetMet-8
 30-AlaAspLeuSerGluAsnLysAla-37
 44-LysSerLysSerProAspThrGluSerValLysLeuLysProLysPheProVal-61

63-IleAspThrGlnAspSerGluIleLysAspMetValGluGluHisLeu-78
 84-GlnGlnGluGluValLeuAspLysGluGlnThr-94
 97-LeuAlaGluGluAlaProAspAsnValLysThrMetLeuArgSer-111

119-ValSerLeuThrGluLysAspGlyAla-127
 134-ProGlyProArgThrLysIle-140
 174-SerAspPheAspGlnAspSerTrpGluAsnSerLysThr-186
 192-ValThrArgLysGlyTyrPro-198
 206-ArgAlaAlaValAsnProAspThrAlaThr-215
 239-GlnArgTyrProGlu-243

283-AlaAspPheAspArgLeuGlnGlyAspArgValProVal-295
 298-SerValThrGluValLysArgHisLysLeuGluThrGlyIleArgLeuAspSerGluTyr-317

342-AspMetAspLysTyrGluThr-348
 373-ArgSerThrThrGlnAsnLeuGluLysArgAlaPhe-384
 392-ArgAspArgAlaGlyIleAspAlaArgLeuGly-402
 405-PheLeuAlaGluGlyArgLysIleProGlySerAspValAspLeu-419
 478-ProGluAsnLysLysLeu-483
 496-ValAlaArgAspAsnAlaAspVal-503
 518-ArgGlyTyrGluLeuAspSer-524
 534-ValLeuProGluArgAlaLeu-540
 562-AspMetGlyAspAla-566

568-AlaAsnPheLysArgMetLysLeuLysHis-577

600-HisSerAspLysLysIleArg-606

g287**AMPHI Regions - AMPHI**

32-AspThrProSerLysPro-37
 111-MetProGlnAsnAlaAlaGluSerAlaAsnGlnThrGly-123
 195-LeuSerAspGluGluLysIleLysArgTyrLysLys-206
 351-LysSerValAspGlyIleIleAspSer-359
 378-GlyPheLysGlyThrTrpThr-384
 391-ValSerGlyArgPheTyr-396

Antigenic Index - Jameson-Wolf

18-CysGlyGlyGlyGlyGlySerProAspValLysSerAlaAspThrProSerLysProAla-38
 50-ValLeuProLysGluLysLysAspGluGluAlaAlaGlyGlyAlaProGlnAlaAspThrGlnAspAlaThrAlaGlyGluGlySerGlnAsp-80

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85-SerAlaGluAsnThrGlyAsnGlyGlyAlaAlaThrThrAspAsnProLysAsnGluAspAlaGlyAlaGlnAsnAspMetProGlnAsnAlaAlaGluSerAlaAsnGlnThrGlyAsnAsnGlnProAlaGlySerSerAspSerAlaProAlaSerAsnProAlaProAlaAsnGlyGlySerAspPheGlyArgThrAsnValGly-154
 160-AspGlyProSerGlnAsn-165
 169-ThrHisCysLysGlyAspSerCysAsnGlyAspAsnLeuLeuAspGluGluAlaProSerLysSerGluPheGluLysLeuSerAspGluGluLysIleLysArgTyrLysLysAspGluGlnArgGluAsnPhe-213
 217-ValAlaAspArgValLysLysAspGlyThrAsnLys-228
 233-TyrThrAspLysProProThrArgSerAlaArgSerArgArgSerLeuPro-249
 262-ThrLeuIleValAspGlyGluAla-269
 281-AlaProGluGlyAsnTyrArgTyrLeu-289
 292-GlyAlaGluLysLeuProGlyGlySerTyr-301
 305-ValGlnGlyGluProAlaLysGlyGluMet-314
 329-HisMetGluAsnGlyArgProTyrProSerGlyGlyArgPheAlaAla-344
 346-ValAspPheGlySerLysSerValAspGlyIleIleAspSerGlyAspAspLeuHisMetGlyThrGlnLysPheLysAlaAlaIleAspGlyAsnGlyPheLysGlyThrTrpThrGluAsnGlyGlyGlyAspValSerGly-393
 395-PheTyrGlyProAlaGlyGluGluValAlaGlyLysTyrSerTyrArgProThrAspAlaGluLysGlyGlyPhe-419
 423-AlaGlyLysLysAspArgAsp-429

Hydrophilic Regions - Hopp-Woods

22-GlyGlyGlySerProAspValLysSerAlaAspThrProSerLysProAla-38
 50-ValLeuProLysGluLysLysAspGluGluAlaAlaGly-62
 65-ProGlnAlaAspThrGlnAspAlaThrAlaGlyGluGlySerGlnAsp-80
 85-SerAlaGluAsnThrGly-90
 95-AlaThrThrAspAsnProLysAsnGluAspAlaGlyAlaGlnAsnAspMetProGlnAsnAlaAlaGluSerAlaAsnGln-121
 126-GlnProAlaGlySerSerAspSerAlaPro-135
 144-GlyGlySerAspPheGlyArg-150
 171-CysLysGlyAspSerCysAsnGly-178
 180-AsnLeuLeuAspGluGluAlaProSerLysSerGluPheGluLysLeuSerAspGluGluLysIleLysArgTyrLysLysAspGluGlnArgGluAsnPhe-213
 217-ValAlaAspArgValLysLysAspGlyThrAsn-227
 235-AspLysProProThrArgSerAlaArgSerArgArgSerLeuPro-249
 263-LeuIleValAspGlyGluAla-269
 292-GlyAlaGluLysLeuPro-297
 305-ValGlnGlyGluProAlaLysGlyGluMet-314
 331-GluAsnGlyArgProTyrProSer-338
 346-ValAspPheGlySerLysSerValAspGlyIleIleAspSerGlyAspAspLeuHis-364
 368-GlnLysPheLysAlaAlaIleAsp-375
 387-GlyGlyGlyAspValSerGly-393
 399-AlaGlyGluGluValAlaGly-405
 407-TyrSerTyrArgProThrAspAlaGluLysGlyGly-418
 423-AlaGlyLysLysAspArgAsp-429

g288**AMPHI Regions - AMPHI**

7-ValSerArgValLeu-11
 54-IleValThrLysCysAla-59
 61-ArgProTyrArgThrPheSerProLeuProVal-71
 97-HisSerThrLeuArg-101
 150-ThrLeuPheGlnAlaGlyPheAsp-157

Antigenic Index - Jameson-Wolf

2-HisThrGlyGlnAla-6
 28-AsnLeuProGluArgSerAlaGlySer-36
 58-CysAlaValArgProTyrArgThrPheSerPro-68

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72-LeuProLysGlnProSerAla-78
 89-LeuProArgProAlaValAsnArgHisSerThrLeuArgSerProAspPheProProArgMet-109
 113-IleArgGlyAspCysLeuPro-119
 126-IleIleThrArgAsnAlaLysMetProSerGluThrValGlnValSerAspGlyIleGlnProLys-147
 155-GlyPheAspGluAlaVal-160

Hydrophilic Regions - Hopp-Woods

28-AsnLeuProGluArgSerAla-34
 58-CysAlaValArgPro-62
 98-SerThrLeuArgSerProAspPheProPro-107
 113-IleArgGlyAspCys-117
 126-IleIleThrArgAsnAlaLysMetProSerGluThrValGlnVal-140
 155-GlyPheAspGluAlaVal-160

g292-2**AMPHI Regions - AMPHI**

7-LysIleLeuThrProPheThrValLeuProLeu-17
 40-GlyLysSerValAla-44
 62-ValLeuSerValSerGlu-67
 69-ProValLysGlyIleTyrGlu-75
 110-GluArgAlaAlaAspLeu-115
 124-ProLeuAspLysAlaIleLysGluValArgGly-134
 150-PheCysLysArgLeuGluHisGluPheGluLysMetThrAspValThr-165
 195-LysAlaTrpThrAspTrpMetArg-202
 212-IleCysAspAsnProVal-217

Antigenic Index - Jameson-Wolf

1-MetLysThrLysLeu-5
 23-ThrProValSerAsnAlaAsnAlaGluSerAlaValLysAlaGluSerAlaGlyLysSerVal-43
 47-LeuLysAlaArgLeuGluLysThrTyrSerAlaGlnAspLeuLys-61
 66-SerGluThrProValLysGlyIle-73
 85-TyrThrAspAlaGluGlyGlyTyr-92
 99-IleAsnIleAspThrArgLysAsnLeuThrGluGluArgAlaAlaAspLeuAsnLys-117
 124-ProLeuAspLysAlaIleLysGluValArgGlyAsnGlyLysLeuLysVal-140
 142-ValPheSerAspProAspCysProPhe-150
 152-LysArgLeuGluHisGluPheGluLysMetThrAsp-163
 177-HisProAspAlaAlaArgLysAla-184
 189-CysGlnProAspArgAlaLysAla-196
 200-TrpMetArgLysGlyLysPheProVal-208
 210-GlySerIleCysAspAsnProValAlaGluThrThrSerLeuGlyGlu-225
 238-ProAsnGlyArgThrGlnSerGlyTyrSerPro-248
 250-ProGlnLeuGluGluIleIleArgLysAsnGlnGln-261

Hydrophilic Regions - Hopp-Woods

1-MetLysThrLysLeu-5
 28-AlaAsnAlaGluSerAlaValLysAlaGluSerAlaGlyLysSerVal-43
 47-LeuLysAlaArgLeuGluLysThrTyrSer-56
 99-IleAsnIleAspThrArgLysAsnLeuThrGluGluArgAlaAlaAspLeuAsnLys-117
 124-ProLeuAspLysAlaIleLysGluValArgGlyAsnGlyLysLeuLys-139
 144-SerAspProAspCysProPhe-150
 152-LysArgLeuGluHisGluPheGluLysMetThrAsp-163
 179-AspAlaAlaArgLysAla-184
 190-GlnProAspArgAlaLysAla-196
 200-TrpMetArgLysGlyLysPhe-206
 240-GlyArgThrGlnSer-244
 250-ProGlnLeuGluGluIleIleArgLysAsnGlnGln-261

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g294-2**AMPHI Regions - AMPHI**

27-ArgPheProAlaAlaLeuArgArgTyrSer-36
 45-LysProAlaGlyThr-49
 51-TrpHisArgValArgArgPheLysSerAsnArgArgThrArgGlyValLysProLeu-69
 85-AlaTrpThrAlaLeuSerHisAsnIleAlaGluArgAlaArgGluSerProArgArgCysGlyLysArgTyrAlaAspIleGlyGly-113
 134-ValAlaHisIleIleHisLeuTyrCys-142
 165-ValSerArgGluAlaArgArgGluVal-173
 176-AlaMetSerTyrArg-180
 212-PheAlaThrSerPheGly-217
 227-AlaPheSerValLeuAlaHisPhe-234
 247-ThrValGlyTrpSerLysTyrIleHisAlaVal-257

Antigenic Index - Jameson-Wolf

20-AlaValArgThrSerSerAsnArgPhe-28
 30-AlaAlaLeuArgArgTyrSerAlaPheArg-39
 44-ProLysProAlaGlyThrProTrpHisArgValArgArgPheLysSerAsnArgArgThrArgGlyValLysProLeuLysLysProTyrLeu-74
 76-ArgGlyAlaGluCysArgCysArgArgAla-85
 93-IleAlaGluArgAlaArgGluSerProArgArgCysGlyLysArgTyrAlaAspIleGlyGlyAspSerAspThrIleArgIleArgValPheArgLeuGluHisArgMet-129
 161-HisThrGlyArgValSerArgGluAlaArgArgGluValGluLysAlaMetSer-178
 240-LysMetAlaArgSer-244

Hydrophilic Regions - Hopp-Woods

20-AlaValArgThrSerSerAsnArg-27
 30-AlaAlaLeuArgArg-34
 52-HisArgValArgArgPheLysSerAsnArgArgThrArgGlyValLysProLeuLysLys-71
 76-ArgGlyAlaGluCysArgCysArgArgAla-85
 93-IleAlaGluArgAlaArgGluSerProArgArgCysGlyLysArgTyrAlaAspIleGlyGlyAspSerAspThrIleArg-119
 121-ArgValPheArgLeuGluHisArgMet-129
 164-ArgValSerArgGluAlaArgArgGluValGluLysAlaMetSer-178

g295**AMPHI Regions - AMPHI**

79-PheArgGlnProArg-83
 111-ValGlnArgPhePheArgGlnPro-118
 131-AlaPheLeuHisGlnIle-136
 163-ValIleArgLysIleAlaAlaLeu-170
 176-AsnLeuArgGlyPhePro-181
 189-HisGlnGlnArgArgIleGlyLysThr-197
 263-TyrIleIleLysProLeuGluHis-270

Antigenic Index - Jameson-Wolf

4-MetAlaArgHisAspGlyGlnGlnGly-12
 18-LeuProArgArgGlnGln-23
 36-AlaAlaAlaHisGlyAsnArgProAlaSerAspAlaPhePheLysLeuProArgGlnArgPheHisVal-58

73-HisGlyCysArgAlaGlnPheArgGlnProArgArgIleArgLeuArgLeuArgGlnThrAlaArgGlnArgSerGlyCysGlyThrAspGlnAlaAlaAsp-106
 115-PheArgGlnProArgIleArgGlnLysGlnArgHisThrArgSerProAla-131
 137-GlyProAspPheGly-141
 144-GlnAsnAlaGluHisArgAla-150

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171-ArgIleGlyLysGlnAsnLeuArgGlyPheProSerArgArgGlyHisLeuArgHisGlnGlnArgArgIle
GlyLysThrProProGlnLeuAla-202
207-GlyGlyThrArgPheSerAspArgAsnGlyValTyrProAsnArgAlaGlyAsnGlyIleArgMetArgLeu
AlaGlu-232
239-ProValCysArgGlyThrSerGly-246
253-ProTyrProTyrArgArgLysGlnProGlnTyr-263
274-SerCysLysThrAsnAlaValArgThrValArgThrAlaPheArgGlnArgAsnGlnIleSer-294

Hydrophilic Regions - Hopp-Woods

5-AlaArgHisAspGlyGlnGln-11
18-LeuProArgArgGlnGln-23
36-AlaAlaAlaHisGlyAsnArgProAlaSer-45

77-AlaGlnPheArgGlnProArgArgIleArgLeuArgLeuArgGlnThrAlaArgGlnArgSerGlyCysGlyT
hrAspGlnAlaAla-105
118-ProArgIleArgGlnLysGlnArgHisThrArg-128
146-AlaGluHisArgAla-150
171-ArgIleGlyLysGlnAsnLeu-177
180-PheProSerArgArgGlyHisLeuArgHisGlnGlnArgArgIleGlyLysThrProPro-199
210-ArgPheSerAspArgAsnGly-216
226-IleArgMetArgLeuAlaGlu-232
239-ProValCysArgGlyThr-244
255-ProTyrArgArgLysGlnPro-261
281-ArgThrValArgThrAlaPheArgGlnArgAsnGlnIle-293
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AMPHI Regions - AMPHI

69-GlnProGlyAspSerLeuAlaAspValLeuAla-79
86-AspGluIleAlaArgIleThrGluLysTyr-95
157-LeuProThrLeuArg-161
199-LeuLysGluGlyAspAla-204
272-LeuValTyrThrArgIleSerSer-279
333-HisAlaAsnGlyValGluThrLeuTyrAlaHisLeuSerAlaPheSerGln-349

Antigenic Index - Jameson-Wolf

8-AlaLysHisArgLysTyrAla-14
31-AlaSerThrGluGlyThrGluArgValArgProGlnArgValGluGlnLysLeuPro-49
52-SerTrpGlyGlyAsnGly-57
67-AlaValGlnProGlyAspSerLeuAla-75
78-LeuAlaArgSerGlyMetAlaArgAspGluIleAlaArgIleThrGluLysTyrGlyGlyGluAlaAspLeuA
rgHisLeuArgAlaAspGlnSerVal-110
115-GlyGlyAspGlySerAlaArgGlu-122
127-ThrAspGluAspGlyGluArgAsnLeuValAlaLeuGluLysLysGlyGlyIleTrpArgArgSerAlaSer
AspAlaAspMetLysVal-156
167-ThrSerAlaArgGlySerLeuAlaArgAlaGluValProValGluIleArgGluSerLeuSer-187
194-PheSerLeuAspGlyLeuLysGluGlyAspAlaVal-205
228-GluValValLysGlyGlyThrThr-235
240-TyrTyrArgSerAspLysGluGlyGlyGlyGlyAsnTyrTyrAspGluAspGlyArgValLeuGlnGlu
LysGlyGlyPheAsn-268
276-ArgIleSerSerProPheGlyTyr-283
295-HisThrGlyIleAspTyrAla-301
303-ProGlnGlyThrProValArgAlaSerAlaAspGly-314
318-PheLysGlyArgLysGlyGlyTyrGly-326
333-HisAlaAsnGlyValGlu-338
350-AlaGlnGlyAsnValArgGlyGlyGlu-358

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365-SerThrGlyArgSerThrGlyProHisLeu-374
 376-TyrGluAlaArgIleAsnGlyGlnProValAsn-386
 393-ProThrProGluLeuThrGlnAlaAspLysAlaAla-404
 408-GlnLysGlnLysAlaAspAlaLeu-415
 426-ValSerGlnSerAsp-430

Hydrophilic Regions - Hopp-Woods

8-AlaLysHisArgLysTyrAla-14
 33-ThrGluGlyThrGluArgValArgProGlnArgValGluGlnLysLeu-48
 68-ValGlnProGlyAspSerLeuAla-75
 82-GlyMetAlaArgAspGluIleAlaArgIleThrGluLysTyrGlyGlyGluAlaAspLeuArgHisLeuArgAlaAspGln-108
 117-AspGlySerAlaArgGlu-122
 127-ThrAspGluAspGlyGluArgAsnLeuValAlaLeuGluLysLysGlyGlyIleTrpArgArgSerAlaSerAspAlaAspMetLysVal-156
 167-ThrSerAlaArgGlySerLeuAlaArgAlaGluValProValGluIleArgGluSerLeu-186
 194-PheSerLeuAspGlyLeuLysGluGlyAspAlaVal-205
 242-ArgSerAspLysGluGlyGlyGly-249
 253-TyrTyrAspGluAspGlyArgValLeuGlnGluLysGlyGlyPhe-267
 306-ThrProValArgAlaSerAla-312
 319-LysGlyArgLysGlyGlyTyr-325
 352-GlyAsnValArgGlyGlyGlu-358
 366-ThrGlyArgSerThrGly-371
 378-AlaArgIleAsnGly-382
 396-GluLeuThrGlnAlaAspLysAlaAla-404
 408-GlnLysGlnLysAlaAspAlaLeu-415

g298**AMPHI Regions - AMPHI**

6-SerLeuPheAlaSerIleLeuMetSerAlaLeuIleAla-18
 26-IleAsnAlaTyrTrpGlnGln-32
 42-ProLeuAlaAlaTyr-46
 62-LeuSerAspGlyIleLysThrPhe-69
 134-ValGlnLysSerLeuLys-139
 148-AsnLeuSerLysGln-152
 157-SerTyrProSerPhePheAspTrpProLysThrIleGluGluThrLeuLysLysHisProGlu-177
 188-AsnAspProTrpAsp-192
 208-AlaGlnGluTyrLeuLysArgValAspArgIleLeuGlu-220
 246-MetArgTyrLeuAspLysLeuLeuSerGluHisLeu-257
 276-ArgTyrThrAspSer-280
 308-GluLysIleMetGluLys-313

Antigenic Index - Jameson-Wolf

22-SerGlnAsnProIleAsnAlaTyr-29
 34-TyrHisArgAsnSerProLeuGluPro-42
 47-GlyTrpTrpArgSerGlyAlaAlaLeuGlnGlu-57
 70-LeuSerGlyGluThrProProThrAlaGlnAspGlyGlySerAlaAspMetProProGluAlaAlaAlaSerGluAlaAlaProProAlaGlyGlyThrGluTrpLysGlnGlyThrGlu-109
 111-AlaAlaValArgSerGlyAspLysValPhePhe-121
 136-LysSerLeuLysGlnGlnTyrGlyIleGluSerAlaAsnLeuSerLysGlnSerThr-154
 162-PheAspTrpProLysThrIleGluGluThrLeuLysLysHisProGlu-177
 186-GlyProAsnAspProTrp-191
 194-ProValGlyLysArgTyrLeu-200
 203-AlaSerAspGluTrpAla-208
 211-TyrLeuLysArgValAspArgIleLeuGlu-220
 238-LysLysValLysLeuAspGlyGlnMetArgTyrLeuAsp-250

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252-LeuLeuSerGluHisLeuLysGly-259
 269-ThrLeuSerGlyGlyLysGlyArgTyrThrAspSerValAsnValAsnGlyLysProValArgTyrArgSer
 LysAspGlyIle-296
 301-GluGlyGlnLysLeuLeuAla-307
 318-ProSerThrGlnProSerSerThrGlnPro-327

Hydrophilic Regions - Hopp-Woods

73-GluThrProProThrAlaGlnAspGlyGlySerAlaAspMetProProGluAlaAlaAlaSerGluAlaAlaP
 ro-97
 102-ThrGluTrpLysGlnGlyThrGlu-109
 111-AlaAlaValArgSerGlyAsp-117
 148-AsnLeuSerLysGlnSerThr-154
 166-LysThrIleGluGluThrLeuLysLysHisProGlu-177
 211-TyrLeuLysArgValAspArgIleLeuGlu-220
 238-LysLysValLysLeuAspGlyGlnMetArgTyrLeuAsp-250
 252-LeuLeuSerGluHisLeuLysGly-259
 271-SerGlyGlyLysGlyArgTyrThrAsp-279
 281-ValAsnValAsnGlyLysProValArgTyrArgSerLysAspGlyIle-296
 301-GluGlyGlnLysLeuLeuAla-307
 319-SerThrGlnProSerSerThrGlnPro-327

g299**AMPHI Regions - AMPHI**

1-MetAsnProLysHisPheIleAlaPheSerAlaLeuPheAlaAlaThrGlnAlaGluAlaLeuProValAlaSe
 rValSerProAspThrValThrValSerProSerAlaProTyrThrAspThrAsnGlyLeuLeuThrAspTyrGly
 AsnAlaAlaAlaSerProTrpMetLysLysLeuArgSerValAlaGlnGlySerGlyGluAlaPheArgIleLeuG
 lnIleGlyAspSerHisThrAlaGlyAspPhePheThrAspAlaLeuArgLysArgLeuGlnLysThrTrpGlyAs
 pGlyGlyIleGlyTrpValTyrProAlaAsnValLysGlyGlnArgMetAlaAlaValArgHisSerGlyAsnTrp
 GlnSerPheThrSerArgAsnAsnThrGlyAspPheProLeuGlyGlyIleLeuAlaGlnThrGlySerGlyGlyG
 lyMetThrLeuThrAlaSerAspGlyLysThrGlyLysGlnArgValSerLeuPheAlaLysProLeuLeuAlaGl
 uGlnThrLeuThrValAsnGlyAsnThrValSerAlaAsnGlyGlyGlyTrpGlnValLeuAspThrGlyAlaAla
 LeuProLeuAlaIleGlnThrGluMetProTrpAspIleGlyPheIleAsnIleGluAsnProAlaGlyGlyIleT
 hrValSerAlaMetGlyIleAsnGlyAlaGlnLeuThrGlnTrpSerLysTrpArgAlaAspArgMetAsnAspLe
 uAlaGlnThrGlyAlaAspLeuValIleLeuSerTyrGlyThrAsnGluAlaPheAsnAsnAsnIleAspIleAla
 AspThrGluGlnLysTrpLeuAspThrValArgGlnIleArgAspSerLeuProAlaAlaGlyIleLeuIleIleG
 lyAlaProGluSerLeuLysAsnThrLeuGlyValCysGlyThrArgProValLeuLeuThrGluValGlnGlnMe
 tGlnArgArgValAlaArgGlnGlyGlnThrMetPheTrpSerTrpGlnAsnAlaMetGlyGlyIleCysSerMet
 LysAsnTrpLeuAsnGlnGlyTrpAlaAlaLysAspGlyValHisPheSerAlaGlnGlyTyrArgArgAlaAlaG
 luMetLeuAlaAspSerLeuGluGluLeuValArgAlaAlaAlaIleArgGln-397

Antigenic Index - Jameson-Wolf

1-MetAsnProLysHisPheIleAlaPheSerAlaLeuPheAlaAlaThrGlnAlaGluAlaLeuProValAlaSe
 rValSerProAspThrValThrValSerProSerAlaProTyrThrAspThrAsnGlyLeuLeuThrAspTyrGly
 AsnAlaAlaAlaSerProTrpMetLysLysLeuArgSerValAlaGlnGlySerGlyGluAlaPheArgIleLeuG
 lnIleGlyAspSerHisThrAlaGlyAspPhePheThrAspAlaLeuArgLysArgLeuGlnLysThrTrpGlyAs
 pGlyGlyIleGlyTrpValTyrProAlaAsnValLysGlyGlnArgMetAlaAlaValArgHisSerGlyAsnTrp
 GlnSerPheThrSerArgAsnAsnThrGlyAspPheProLeuGlyGlyIleLeuAlaGlnThrGlySerGlyGlyG
 lyMetThrLeuThrAlaSerAspGlyLysThrGlyLysGlnArgValSerLeuPheAlaLysProLeuLeuAlaGl
 uGlnThrLeuThrValAsnGlyAsnThrValSerAlaAsnGlyGlyGlyTrpGlnValLeuAspThrGlyAlaAla
 LeuProLeuAlaIleGlnThrGluMetProTrpAspIleGlyPheIleAsnIleGluAsnProAlaGlyGlyIleT
 hrValSerAlaMetGlyIleAsnGlyAlaGlnLeuThrGlnTrpSerLysTrpArgAlaAspArgMetAsnAspLe
 uAlaGlnThrGlyAlaAspLeuValIleLeuSerTyrGlyThrAsnGluAlaPheAsnAsnAsnIleAspIleAla
 AspThrGluGlnLysTrpLeuAspThrValArgGlnIleArgAspSerLeuProAlaAlaGlyIleLeuIleIleG
 lyAlaProGluSerLeuLysAsnThrLeuGlyValCysGlyThrArgProValLeuLeuThrGluValGlnGlnMe
 tGlnArgArgValAlaArgGlnGlyGlnThrMetPheTrpSerTrpGlnAsnAlaMetGlyGlyIleCysSerMet

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LysAsnTrpLeuAsnGlnGlyTrpAlaAlaLysAspGlyValHisPheSerAlaGlnGlyTyrArgArgAlaAlaG
luMetLeuAlaAspSerLeuGluGluLeuValArgAlaAlaAlaIleArgGln-397

Hydrophilic Regions - Hopp-Woods

1-MetAsnProLysHisPheIleAlaPheSerAlaLeuPheAlaAlaThrGlnAlaGluAlaLeuProValAlaSe
rValSerProAspThrValThrValSerProSerAlaProTyrThrAspThrAsnGlyLeuLeuThrAspTyrGly
AsnAlaAlaAlaSerProTrpMetLysLysLeuArgSerValAlaGlnGlySerGlyGluAlaPheArgIleLeuG
lnIleGlyAspSerHisThrAlaGlyAspPhePheThrAspAlaLeuArgLysArgLeuGlnLysThrTrpGlyAs
pGlyGlyIleGlyTrpValTyrProAlaAsnValLysGlyGlnArgMetAlaAlaValArgHisSerGlyAsnTrp
GlnSerPheThrSerArgAsnAsnThrGlyAspPheProLeuGlyGlyIleLeuAlaGlnThrGlySerGlyGlyG
lyMetThrLeuThrAlaAlaSerAspGlyLysThrGlyLysGlnArgValSerLeuPheAlaLysProLeuLeuAlaG
luGlnThrLeuThrValAsnGlyAsnThrValSerAlaAsnGlyGlyGlyTrpGlnValLeuAspThrGlyAlaAla
LeuProLeuAlaIleGlnThrGluMetProTrpAspIleGlyPheIleAsnIleGluAsnProAlaGlyGlyIleT
hrValSerAlaMetGlyIleAsnGlyAlaGlnLeuThrGlnTrpSerLysTrpArgAlaAspArgMetAsnAspLe
uAlaGlnThrGlyAlaAspLeuValIleLeuSerTyrGlyThrAsnGluAlaPheAsnAsnAsnIleAspIleAla
AspThrGluGlnLysTrpLeuAspThrValArgGlnIleArgAspSerLeuProAlaAlaGlyIleLeuIleIleG
lyAlaProGluSerLeuLysAsnThrLeuGlyValCysGlyThrArgProValLeuLeuThrGluValGlnGlnMe
tGlnArgArgValAlaArgGlnGlyGlnThrMetPheTrpSerTrpGlnAsnAlaMetGlyGlyIleCysSerMet
LysAsnTrpLeuAsnGlnGlyTrpAlaAlaLysAspGlyValHisPheSerAlaGlnGlyTyrArgArgAlaAlaG
luMetLeuAlaAspSerLeuGluGluLeuValArgAlaAlaAlaIleArgGln-397

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AMPHI Regions - AMPHI

20-SerGlyArgPheLeuArgThrValGluTrpLeuGlyAsnMetLeuProHisPro-37
81-ValValSerLeuLeuAspAlaAspGlyLeuIleLysIleLeuThrHisThrValLysAsnPheThrGlyPheA
laProLeuGlyThrValLeuValSerLeu-114
127-SerAlaLeuMetArg-131
171-IlePheHisSerLeuGlyArgHisProLeuAlaGlyLeuAlaAlaPheAlaGlyValSerGly-192
201-GlyThrIleAspProLeuLeuAlaGlyIleThrGlnGlnAla-214
240-IleAlaLeuIleGly-244
271-ArgHisSerAsnGluIle-276
294-LeuSerAlaLeuLeuAlaTrp-300
308-IleLeuArgHisProGluThr-314
341-TyrGlyArgIleThrArgSerLeuArgGly-350
352-ArgGluValValAsnAlaMetAlaGluSerMetSer-363
378-PheValAlaPhePheAsnTrpThrAsnIleGlyGlnTyrIle-391
448-AlaProGlnValIle-452
455-AlaTyrArgIleGlyAspSerValThrAsnIleIleThrProMetMetSerTyrPheGlyLeuIleMetAla
-478
505-IleAlaTrpIleAlaLeuPheCysIle-513

Antigenic Index - Jameson-Wolf

8-LysGluLysGlnMetSerGlnThrAspAlaArgArgSerGlyArgPheLeuArg-25
61-SerValProAspProArgProValGlyAlaLysGlyArgAlaAspAspGlyLeu-78
85-LeuAspAlaAspGlyLeu-90
119-IleAlaGluLysSerGly-124
134-LeuThrLysSerProArgLysLeuThr-142
152-LeuSerAsnThrAlaSerGlu-158
175-LeuGlyArgHisProLeu-180
250-LysIleValGluProGlnLeuGlyProTyrGlnSerAspLeuSerGlnGluGluLysAspIleArgHisSer
AsnGluIleThrProLeuGluTyrLys-282
304-ProAlaAspGlyIleLeuArgHisProGluThrGlyLeu-316
343-ArgIleThrArgSerLeuArgGlyGluArgGluValVal-355
402-ValGlyLeuGlyGly-406
482-LysTyrLysLysAspAlaGlyVal-489

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Hydrophilic Regions - Hopp-Woods

8-LysGluLysGlnMetSerGlnThrAspAlaArgArgSerGlyArgPhe-23
 63-ProAspProArgProValGlyAlaLysGlyArgAlaAspAspGlyLeu-78
 85-LeuAspAlaAspGlyLeu-90
 119-IleAlaGluLysSerGly-124
 136-LysSerProArgLysLeu-141
 263-LeuSerGlnGluGluLysAspIleArgHisSerAsnGlu-275
 307-GlyIleLeuArgHisProGlu-313
 344-IleThrArgSerLeuArgGlyGluArgGluValVal-355
 482-LysTyrLysLysAspAlaGly-488
g305

AMPHI Regions - AMPHI

10-LeuMetMetGlyLeuValGluGlyPheThrGluPheLeuPro-23
 33-PheGlyAsnLeuIleGly-38
 66-PheSerAsnValLeuHis-71
 93-AlaAlaValMetGly-97
 99-LeuPheAspLysGlnIleLysGluTyrLeuPhe-109
 141-AspValAspAlaLeuArgProIleAspAla-150
 155-ValAlaGlnValPheAla-160
 202-AlaTyrAspValLeuLysHisTyrArgPhePheThrLeuHis-215
 222-IleGlyPheIleAlaAlaPheValSer-230
 235-ValLysAlaLeuLeuLys-240

Antigenic Index - Jameson-Wolf

41-SerAsnHisLysValPhe-46
 61-GluTyrArgGlnArgPheSerAsn-68
 72-GlyValGlyLysAspArgLysAlaAsn-80
 128-ValGluLysArgGlnSerArgAlaGluProLysIleAlaAsp-141
 143-AspAlaLeuArgProIleAsp-149
 163-ProGlyThrSerArgSerGlySerThr-171
 180-IleGluArgLysThrAlaThr-186
 241-PheValSerLysLysAsnTyr-247

Hydrophilic Regions - Hopp-Woods

62-TyrArgGlnArgPhe-66
 73-ValGlyLysAspArgLysAlaAsn-80
 128-ValGluLysArgGlnSerArgAlaGluProLysIleAlaAsp-141
 143-AspAlaLeuArgProIleAsp-149
 165-ThrSerArgSerGlySer-170
 180-IleGluArgLysThrAlaThr-186
 242-ValSerLysLysAsn-246

g308-1**AMPHI Regions - AMPHI**

6-PheTyrArgIleLeuGlyValAlaAsp-14
 27-ThrIleIleAlaGlyLeu-32
 64-AlaLeuGluLeuLeuArgAlaGln-71
 83-AlaGluMetAlaArgAlaSerGlu-90
 101-LeuAlaAspPheValHisProIleGlyAsnIleGlyAlaCys-114
 131-SerMetArgThrLeuAlaSerValAlaHisGlyPheGlyAsp-144
 172-LeuAlaHisLeuAspAsnMetLysArgValThrGlu-183

Antigenic Index - Jameson-Wolf

39-TrpGluArgArgMetMetVal-45
 68-LeuArgAlaGlnAspValGluThr-75
 80-SerLysGlyAlaGluMetAlaArgAlaSerGluThrAspTyrThrLysAspGluVal-98

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118-GlyThrPheLysThrAspGlyMet-125
 141-GlyPheGlyAspAsnLeuLeu-147
 149-ArgAlaAlaAspValValLeuLysGluArgArgArgLeu-161
 166-ArgGluThrProLeu-170
 176-AspAsnMetLysArgValThrGluMetGly-185
 195-MetTyrArgLysProGlnThrAlaAspAspIleVal-206
 220-AspThrProAspLeuAlaGlu-226

Hydrophilic Regions - Hopp-Woods

39-TrpGluArgArgMetMetVal-45
 68-LeuArgAlaGlnAspValGluThr-75
 81-LysGlyAlaGluMetAlaArgAlaSerGluThrAspTyrThrLysAspGluVal-98
 120-PheLysThrAspGly-124
 149-ArgAlaAlaAspValValLeuLysGluArgArgArgLeu-161
 176-AspAsnMetLysArgValThrGlu-183
 195-MetTyrArgLysProGlnThrAlaAspAspIleVal-206

g311-1**AMPHI Regions - AMPHI**

7-SerHisTrpArgValLeuAlaGluLeuAlaAspGlyLeuProGlnHisValSerGlnLeuAlaArg-28
 37-LeuAsnGlyPheTrpGlnGlnMetProAlaHisIleArgGlyLeuLeuArg-53
 55-HisAspGlyTyrTrpArgLeuValArgProLeuAlaValPheAspAlaGluGlyLeuArgAspLeuGly-77
 124-ArgGlnGlyArgLysTrpSerHisArgLeu-133
 155-LeuSerProValAlaAla-160
 219-ValGluAsnAlaAlaSerValGlnSerLeuPheGln-230
 245-GluThrLeuLeuAlaGluLeuGlyAlaValLeuGluGlnTyrAlaGluGlu-261
 265-ProPheLeuAsnGlu-269
 291-CysGluGlyThrVal-295
 362-ThrValGlySerAlaProTyrArgAspLeuSerProLeu-374
 426-TyrArgHisProGluGluHisGlySerAspArgTrpPheAsnAlaLeuGlySer-443
 511-AlaValAlaSerGlyMetMetAspAlaValCysGly-522
 550-AlaAlaLysValAlaGluAlaLeuProPro-559
 576-HisGlyLeuLeuAsnLeu-581

Antigenic Index - Jameson-Wolf

26-LeuAlaArgGluAlaAspMetLysProGlnGln-36
 50-GlyLeuLeuArgGlnHisAspGlyTyr-58
 71-GluGlyLeuArgAspLeuGlyGluArgSerGlyPheGlnThr-84
 86-LeuLysHisGluCysAlaSerSerAsnAspGluIleLeuGlu-99
 102-ArgIleAlaProAspLysAlaHisLys-110
 116-HisLeuGlnSerLysGlyArgGlyArgGlnGlyArgLysTrpSerHisArgLeuGlyGlu-135
 145-PheAspArgProGlnTyrGluLeuGlySer-154
 162-AlaCysArgArgAlaLeuGly-168
 174-ThrGlnIleLysTrpProAsn-180
 182-LeuValValGlyArgAspLysLeuGly-190
 196-ThrValArgAlaGlyGlyLysThrVal-204
 215-LeuProLysGluValGluAsn-221
 231-ThrAlaSerArgArgGlyAsnAlaAsp-239
 257-GlnTyrAlaGluGluGlyPhe-263
 269-GluTyrGluThrAlaAsnArgAspHisGlyLys-279
 283-LeuLeuArgAspGlyGluThrValCysGluGlyThrValLysGlyValAspGlyArgGlyValLeu-304
 307-GluThrAlaGluGlyGluGlnThrValValSerGlyGluIleSerLeuArgProAspAsnArgSerValSer
 ValProLysArgProAspSerGluArgPheLeu-341
 344-GluGlyGlyAsnSerArgLeuLys-351
 364-GlySerAlaProTyrArgAspLeuSerProLeuGly-375
 378-TrpAlaGluLysAlaAspGlyAsnValArgIle-388

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394-CysGlyGluSerLysLysAlaGlnValLysGluGlnLeuAlaArgLysIleGlu-411
 424-AsnHisTyrArgHisProGluGluHisGlySerAspArgTrp-437
 440-AlaLeuGlySerArgArgPheSerArgAsnAla-450
 464-AlaLeuThrAspAspGlyHisTyrLeuGly-473
 483-MetLysGluSerLeuAla-488
 492-AlaAsnLeuAsnArgProAlaGlyLysArgTyrPro-503
 529-GlyArgLeuLysGluLysAsnGlyAlaGlyLysProVal-541
 547-GlyGlyGlyAlaAlaLysValAlaGlu-555
 565-AsnThrValArgValAlaAsp-571
 584-AlaGluGlyGlyGluSerGluHisAla-592

Hydrophilic Regions - Hopp-Woods

26-LeuAlaArgGluAlaAspMetLysProGlnGln-36
 50-GlyLeuLeuArgGlnHis-55
 71-GluGlyLeuArgAspLeuGlyGluArgSerGlyPhe-82
 86-LeuLysHisGluCysAlaSerSerAsnAspGluIleLeuGlu-99
 102-ArgIleAlaProAspLysAlaHisLys-110
 118-GlnSerLysGlyArgGlyArgGlnGlyArgLysTrpSerHisArgLeuGlyGlu-135
 162-AlaCysArgArgAlaLeu-167
 183-ValValGlyArgAspLysLeuGly-190
 196-ThrValArgAlaGlyGlyLys-202
 217-LysGluValGluAsn-221
 232-AlaSerArgArgGlyAsnAlaAsp-239
 257-GlnTyrAlaGluGluGlyPhe-263
 270-TyrGluThrAlaAsnArgAspHisGlyLys-279
 285-ArgAspGlyGluThrValCys-291
 293-GlyThrValLysGlyValAspGlyArgGly-302
 307-GluThrAlaGluGlyGluGlnThrValVal-316
 320-IleSerLeuArgProAspAsnArgSerValSerValProLysArgProAspSerGluArg-339
 346-GlyAsnSerArgLeu-350
 367-ProTyrArgAspLeuSer-372
 378-TrpAlaGluLysAlaAspGlyAsnVal-386
 395-GlyGluSerLysLysAlaGlnValLysGluGlnLeuAlaArgLysIleGlu-411
 424-AsnHisTyrArgHisProGluGluHisGlySer-434
 442-GlySerArgArgPheSerArg-448
 464-AlaLeuThrAspAspGlyHis-470
 483-MetLysGluSerLeuAla-488
 493-AsnLeuAsnArgProAlaGlyLysArgTyrPro-503
 529-GlyArgLeuLysGluLysAsnGlyAlaGlyLysProVal-541
 549-GlyAlaAlaLysValAlaGlu-555
 565-AsnThrValArgValAlaAsp-571
 585-GluGlyGlyGluSerGluHisAla-592

g312**AMPHI Regions - AMPHI**

6-GlyGluIleLeuGluThrValLysMetValAlaAsp-17
 44-GlnAsnIleTyrAsnLysIleThrThrValGlyLys-55
 82-IleAlaGlnIleAlaAlaAlaThr-89
 96-SerValAlaGlnThrLeuAspLysAlaAlaLys-106
 109-GlyValSerPheIleGlyGlyPheSerAlaLeuValGln-121
 133-ArgSerValProGluAlaMetLysThr-141
 167-GlyGluThrIleLysArgThrAlaGluIle-176
 182-GlyCysAlaLysIleValValPheCys-190
 230-SerAspAlaValSerLeuThrGluValAlaGluValValLysLys-244
 249-IleThrArgValGlyGluLeuIleGlyArgGluAlaSerLys-262
 281-ValGlyAspSerValAlaArgIleLeuGluGluMetGly-293

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309-LeuAsnAspAlaVal-313
322-SerAlaValGlyGlyLeuSerGly-329
349-LeuThrLeuAspLysLeuGluAlaMetThrAla-359
374-ThrProAlaHisThrIleSerGlyIleIle-383
409-ValGlyAspSerValGluPheGlyGlyLeuLeuGly-420

Antigenic Index - Jameson-Wolf

4-GlnSerGlyGluIleLeuGlu-10
13-LysMetValAlaAspArgAsnPheAspVal-22
35-IleSerThrAspIleAspVal-41
52-ThrValGlyLysAspLeuValAla-59
64-LeuSerAlaLysTyr-68
89-ThrLysAlaAspSerTyrVal-95
100-ThrLeuAspLysAlaAlaLys-106
121-GlnLysGlyMetSerProSerAspGluValLeu-131
134-SerValProGluAlaMetLysThrThrAsp-143
152-GlySerThrArgAla-156
161-AspAlaValLysLeuAlaGlyGluThrIleLysArgThrAlaGluIleThrProGluGlyPheGly-182
192-AlaValGluAspAsnProPhe-198
204-HisGlySerGlyGluAlaAspAla-211
225-AlaAlaLeuGluAsnSerAspAla-232
237-GluValAlaGluValValLys-243
251-ArgValGlyGluLeuIleGlyArgGluAlaSerLys-262
280-AlaValGlyAspSerValAlaArgIleLeuGlu-290
311-AspAlaValLysLysGlyGlyMet-318
334-ValSerGluAspGluGlyMet-340
352-AspLysLeuGluAla-356
370-ValProGlyAspThrProAla-376
383-IleAlaAspGluAlaAla-388
392-IleAsnSerLysThrThrAla-398
405-ThrGlyLysThrValGlyAspSerValGlu-414
426-ProAlaLysGluGlySerCys-432
435-PheValAsnArgGlyGlyArgIle-442
447-GlnSerMetLysAsn-451

Hydrophilic Regions - Hopp-Woods

13-LysMetValAlaAspArgAsnPheAspVal-22
35-IleSerThrAspIleAspVal-41
52-ThrValGlyLysAspLeuValAla-59
89-ThrLysAlaAspSer-93
100-ThrLeuAspLysAlaAlaLys-106
123-GlyMetSerProSerAspGluValLeu-131
134-SerValProGluAlaMetLysThrThrAsp-143
161-AspAlaValLysLeuAlaGlyGluThrIleLysArgThrAlaGluIleThrPro-178
192-AlaValGluAspAsnPro-197
207-GlyGluAlaAspAla-211
225-AlaAlaLeuGluAsnSerAspAla-232
237-GluValAlaGluValValLys-243
251-ArgValGlyGluLeuIleGlyArgGluAlaSerLys-262
284-SerValAlaArgIleLeuGlu-290
311-AspAlaValLysLysGlyGlyMet-318
334-ValSerGluAspGluGlyMet-340
352-AspLysLeuGluAla-356
383-IleAlaAspGluAlaAla-388
408-ThrValGlyAspSerValGlu-414

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426-ProAlaLysGluGlySerCys-432
 438-ArgGlyGlyArgIle-442
 447-GlnSerMetLysAsn-451
g313-2
AMPHI Regions - AMPHI
 27-GlyMetAspAspProArgThrTyrGlySerGly-37
 41-AlaThrAsnValLeu-45
 60-AspAlaAlaLysGly-64
 66-ValAlaValLeuLeuAlaArgValLeuGlnGluPro-77
 88-ValAlaLeuAlaAlaLeuValGlyHisMetTrpPro-99
 143-SerLeuAlaAlaLeuValAla-149

Antigenic Index - Jameson-Wolf
 26-TyrGlyMetAspAspProArgThrTyrGlySerGlyAsnProGlyAla-41
 46-ArgSerGlyLysLysLysAlaAla-53
 73-ValLeuGlnGluProLeuGlyLeuSerAspSerAla-84
 104-PheLysGlyGlyLysGlyVal-110
 180-ArgHisLysSerAsn-184
 189-IleLysGlyLysGluSerLysIleGlyGluLysArg-200

Hydrophilic Regions - Hopp-Woods
 26-TyrGlyMetAspAspProArgThrTyrGly-35
 46-ArgSerGlyLysLysLysAlaAla-53
 105-LysGlyGlyLysGlyVal-110
 189-IleLysGlyLysGluSerLysIleGlyGluLysArg-200
g401

AMPHI Regions - AMPHI
 46-ValLysProTyrAsnAlaLeu-52
 65-CysTyrAsnCysHisSerGlnMetIleArgProPheArg-77
 112-ValGlyGlyArgTyrSerAspGluTrpHisArgIle-123
 157-MetLysAlaLeuArgLysValGlyThr-165
 172-IleAlaLysAlaProGluAlaLeu-179

Antigenic Index - Jameson-Wolf
 5-GlnLeuAlaGluGluLysIle-11
 38-AlaAlaThrGlnProAlaProGlyValLysProTyrAsn-50
 55-AlaGlyArgAspIleTyrIleArgGluGlyCysTyrAsnCysHis-69
 74-ArgProPheArgAlaGluThrGluArgTyrGlyHis-85
 90-GlyGluSerValTyr-94
 98-PheGlnTrpGlySerLysArgThrGlyProAspLeuAlaArgValGlyGlyArgTyrSerAspGluTrpHis-121
 125-LeuLeuAsnProArgAspValValProGluSerAsnMetPro-138
 146-AsnLysValAspValAspAla-152
 158-LysAlaLeuArgLysValGlyThrProTyrSerAspGluGluIleAlaLysAlaProGlu-177
 179-LeuAlaAsnLysSerGluLeuAspAla-187

Hydrophilic Regions - Hopp-Woods
 5-GlnLeuAlaGluGluLysIle-11
 76-PheArgAlaGluThrGluArgTyrGly-84
 101-GlySerLysArgThrGlyProAspLeuAlaArgValGlyGlyArgTyrSerAspGluTrpHis-121
 127-AsnProArgAspValValPro-133
 146-AsnLysValAspValAspAla-152
 158-LysAlaLeuArgLysValGly-164
 167-TyrSerAspGluGluIleAlaLysAlaProGlu-177
 179-LeuAlaAsnLysSerGluLeuAspAla-187

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g402**AMPHI Regions - AMPHI**

13-IleAsnMetLeuSerPheLeuThrGly-21
44-GlnAlaPheSerPheIle-49
85-AlaGlyIleAlaAspPhe-90
100-ThrGlyPheSerGlyPheValHis-107
117-AlaValValArgGlyLeu-122
136-LysSerGlyArgGln-140
146-PheAlaAsnValAlaGly-151
218-ValPheGlnAsnIleAlaGlyArgProAsp-227
261-AspIlePheAsnSerValAsnGlyIleGlu-270
279-LysSerGlyIleArg-283
294-SerTrpAlaArgValLeuSerAlaIleProGluMetGln-306
344-ArgLysTrpLeuArgArgHisPro-351
376-AlaGluPheLeuLysGlnValGlnSerHisLeu-386
398-HisSerProHisAlaPheAlaThrAlaValHisSerIlePro-411
437-GlnArgLeuSerArgLeu-442
460-AlaAlaGlnLysVal-464
466-SerArgMetLeuIleArgMet-472

Antigenic Index - Jameson-Wolf

4-ValAsnThrLysProAsnThrSer-11
66-ArgIleCysArgSerArgPheValAsp-74
130-ValGlyThrAspGlyAsnLysSerGlyArgGlnValSer-142
223-AlaGlyArgProAspArgLeuIleGluAsnLysHisGly-235
240-TyrHisArgAspGlyAspLysValVal-248
264-AsnSerValAsnGlyIleGluArg-271
277-SerLeuLysSerGlyIleArgArg-284
321-IleAlaAspGluProGln-326
331-LeuGlnAspLysArgValGluIleValLeuAspAspGlyArgLysTrpLeuArgArgHisProAspGluLys
PheAsp-356
385-HisLeuThrProAspGly-390
429-PheProAsnLysGluLeuLeuLysGlnArgLeuSer-440
444-TrpProGluSerGlyArgHisValPheAspSerSerThrVal-457
472-MetThrGluProSerAlaGly-478
481-ValIleThrAspAspAsnMet-487
489-ValGluTyrLysTyrGlyArgGlyIle-497

Hydrophilic Regions - Hopp-Woods

4-ValAsnThrLysProAsn-9
131-GlyThrAspGlyAsnLysSerGlyArgGlnVal-141
223-AlaGlyArgProAspArgLeuIleGluAsnLysHis-234
241-HisArgAspGlyAspLysValVal-248
278-LeuLysSerGlyIleArg-283
321-IleAlaAspGluProGln-326
331-LeuGlnAspLysArgValGluIleValLeuAspAspGlyArgLysTrpLeuArgArgHisProAspGluLys
PheAsp-356
430-ProAsnLysGluLeuLeuLysGlnArgLeuSer-440
446-GluSerGlyArgHisValPhe-452
472-MetThrGluProSerAlaGly-478
481-ValIleThrAspAspAsnMet-487

g501**AMPHI Regions - AMPHI**

63-ValGluValLeuGlnGluLeuPheArgGlnTyrArgValAlaArgGlnLeu-79
88-ValPheAlaAlaPheGlnAlaValPhePheGlnCysLeuAsnHisCysPheGly-105

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127-AsnAlaPheGlnGly-131
 139-ValPheGluAlaLeuGlyAsnIleThrArgArgThrThrGluAla-153
 183-AspGlyPheThrArgIleAsnArgCysGlyLysArgCysHisAlaPheGlyAspPheIleAsp-203
 253-AlaPheAlaGlyGlnIle-258
 307-TyrGlyAsnPheLeuThrValPheGlnGluPheGlyArgIleAlaAlaAlaAsp-324
 365-GlyAsnGlnTyrValAlaGlyPhe-372
 492-GlyGluAsnHisPheAspValPheArgThr-501
 513-PheGluArgGlyPheGluHisIleLysPheValArgValAspArgAlaLeuTyrAspValPheAlaGlnThr-536

Antigenic Index - Jameson-Wolf

6-LeuThrAlaAspThrAspIle-12
 19-GlyGlyAspGlyLysMetGlnHisHisPheAspGly-30
 46-ValGluAlaGluGlyGln-51
 56-ValArgAlaAspGlyGluAlaValGluVal-65
 108-GlnSerAlaAspGluArgAsnHisAspPheAspValGlyGln-121
 145-AsnIleThrArgArgThrThrGluAlaGlnHis-155
 179-GlyHisThrAspAspGlyPheThrArgIleAsnArgCysGlyLysArgCysHisAla-197
 202-IleAspValGluValAspArgGlyCysValThrGlyAspAlaAlaAspAsnPhe-219
 231-GlnGlnGlyPheArgValAspAlaAspLeuAlaValAspAspLysPheHisThrArgGlnAlaAsp-252
 258-IleGlyGluAlaGluCysGluPheGly-266
 270-ValHisHisAspPheAspGlyCys-277
 283-GlnGlyAspIleGly-287
 295-GlyIleAspLysAlaGly-300
 321-AlaAlaAlaAspAspGlyArgAsnThrGlnPheAlaArgAspAspGlyGlyValAla-339
 345-ValGlyHisAspGlyGlySerThr-352
 392-LeuThrAspGlyThr-396
 398-PheAlaGlnAspGly-402
 421-PheAspGlyPheGly-425
 442-PheAspIleHisArg-446
 453-AspGlyGlnArgVal-457
 479-PheAspValGlyTyr-483
 502-HisGlyLeuAlaGlnAspGlyGly-509
 523-ValArgValAspArgAlaLeu-529
 536-ThrValArgGlyGlyAsnLysAspAspLeuVal-546
 552-ValGluGlyGluHisHisThr-558

Hydrophilic Regions - Hopp-Woods

6-LeuThrAlaAspThr-10
 19-GlyGlyAspGlyLysMet-24
 46-ValGluAlaGluGlyGln-51
 56-ValArgAlaAspGlyGluAlaValGluVal-65
 108-GlnSerAlaAspGluArgAsnHisAspPheAspVal-119
 146-IleThrArgArgThrThrGluAlaGlnHis-155
 179-GlyHisThrAspAspGlyPheThrArgIleAsnArgCysGlyLysArgCysHisAla-197
 202-IleAspValGluValAspArgGlyCysVal-211
 214-AspAlaAlaAspAsnPhe-219
 234-PheArgValAspAlaAspLeuAlaValAspAspLysPheHisThrArgGlnAlaAsp-252
 258-IleGlyGluAlaGluCysGluPheGly-266
 270-ValHisHisAspPhe-274
 295-GlyIleAspLysAlaGly-300
 321-AlaAlaAlaAspAspGlyArgAsnThrGlnPheAlaArgAspAspGlyGlyVal-338
 345-ValGlyHisAspGly-349
 523-ValArgValAspArgAlaLeu-529
 537-ValArgGlyGlyAsnLysAspAspLeuVal-546

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552-ValGluGlyGluHisHisThr-558

g502-1**AMPHI Regions** - AMPHI

6-AsnLeuPheGlnPheLeuAlaValCys-14

26-GlyAlaValAspAlaLeuLysGlnPheAsnAsnAspAlaAspGlyIleSerGlySerPheThrGln-47

98-GlnValThrLysSerSerGlnAsp-105

136-GlyIleAspTyrVal-140

Antigenic Index - Jameson-Wolf

32-LysGlnPheAsnAsnAspAlaAspGlyIleSerGlySer-44

48-ThrValGlnSerLysLysLysThrGlnThrAlaHisGlyThr-61

98-GlnValThrLysSerSerGlnAspGlnAlaIleGlyGlySerPro-112

116-LeuSerAsnLysThrAlaLeuGluSerSerTyrThrLeuLysGluAspGlySerSerAsnGly-136

141-ArgAlaThrProLysArgAsnAsnAlaGly-150

158-PheLysGlyGlyAsn-162

167-GlnLeuLysAspSerPheGlyAsnGlnThr-176

184-AsnThrAsnProGlnLeuSerArgGlyAlaPhe-194

196-PheThrProProLysGlyValAspVal-204

Hydrophilic Regions - Hopp-Woods

34-PheAsnAsnAspAlaAspGlyIle-41

49-ValGlnSerLysLysLysThrGlnThr-57

100-ThrLysSerSerGlnAspGlnAlaIle-108

126-TyrThrLeuLysGluAspGlySerSerAsn-135

141-ArgAlaThrProLysArgAsnAsnAla-149

167-GlnLeuLysAspSerPheGly-173

g503-1**AMPHI Regions** - AMPHI

6-TyrArgGluAlaLys-10

95-ThrSerSerThrSerAsnPheAlaArgAlaAlaGluMetArgSerPhe-110

Antigenic Index - Jameson-Wolf

4-SerLeuTyrArgGluAlaLysThr-11

32-ProAlaAsnAspAlaSerGlyArgSerSerAlaValAlaGluGluArgThrAlaThrGluMetSerAlaProSer-56

69-SerAlaSerSerCysSerGlyLysGlyValSer-79

87-LeuProThrArgAlaSerSerGluThrSerSerThrSerAsnPhe-101

103-ArgAlaAlaGluMetArgSerPheArgProLeuCysAlaArgAsnAlaArg-119

Hydrophilic Regions - Hopp-Woods

4-SerLeuTyrArgGluAlaLysThr-11

35-AspAlaSerGlyArgSerSerAlaValAlaGluGluArgThrAlaThrGluMetSerAla-54

73-CysSerGlyLysGlyValSer-79

89-ThrArgAlaSerSerGluThrSerSer-97

103-ArgAlaAlaGluMetArgSerPheArg-111

g505**AMPHI Regions** - AMPHI

20-LeuThrAlaLeuLeuLysCysLeuSerLeuLeuSerLeuSerCysLeu-35

37-ThrLeuGlyAsnArg-41

89-ProAlaPhePheLysLysProGluAspIleGluThrMetPheLysAlaValHisGlyTrpGluHisValGlnGlnAlaLeuAsp-116

148-AlaMetTyrLysProProLysIleLysAlaIleAspLysIleMetGlnAlaGly-165

178-IleGlnGlyValLysGlnIleIleLysAlaLeuArg-189

209-GlyValTrpAlaAspPhePheGlyLysPro-218

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Antigenic Index - Jameson-Wolf

39-GlyAsnArgLeuGly-43
 50-LeuLysGluAspArgAlaArgIle-57
 64-AlaGlyLeuAsnProAspThrGlnThrVal-73
 79-GluThrAlaLysCysGlyLeu-85
 92-PheLysLysProGluAspIleGluThr-100
 114-AlaLeuAspLysGlyGluGlyLeu-121
 131-TyrAspLeuGlyGlyArgTyrIleSer-139
 151-LysProProLysIleLysAlaIleAspLysIleMetGln-163
 165-GlyArgValArgGlyLysGlyLysThrAlaProThrGly-177
 179-GlnGlyValLysGlnIleIleLys-186
 188-LeuArgAlaGlyGlu-192
 199-AspHisValProSerProGlnGluGlyGlyVal-210
 241-CysGluArgLeuProAspGlyGlnGly-249
 257-ValGlnGlyGluLeuAsnGlyAsnLysAlaHisAsp-268
 273-AsnArgAsnThrGluTyrTrp-279
 292-AsnArgTyrLysThrPro-297

Hydrophilic Regions - Hopp-Woods

50-LeuLysGluAspArgAlaArgIle-57
 65-GlyLeuAsnProAspThrGlnThr-72
 79-GluThrAlaLysCysGlyLeu-85
 92-PheLysLysProGluAspIleGluThr-100
 114-AlaLeuAspLysGlyGlu-119
 151-LysProProLysIleLysAlaIleAspLysIleMetGln-163
 165-GlyArgValArgGlyLysGlyLysThrAla-174
 188-LeuArgAlaGlyGlu-192
 201-ValProSerProGlnGluGly-207
 257-ValGlnGlyGluLeuAsnGlyAsnLysAlaHisAsp-268
g506

AMPHI Regions - AMPHI

6-GluValGlyArgIleAlaHisGlyCysGlyGlyValVal-18
 25-ArgValValHisGlnValGluGlnGlyAlaArgLeuAla-37
 56-PheGlnArgArgPhe-60
 99-AlaThrArgThrIleAspGlyAsp-106
 123-GluGlnThrGlyLeuGln-128
 138-GlyAsnGluValAlaArgCys-144
 180-GlnValLysArgMetIleArgHisPhe-188
 199-ValHisArgProPheArgGluLeuAlaAlaLeuAspGlyPheValGlnVal-215
 224-GlyAspAspPheCysSerPhePheValGlyGlnValPheAsnProLeuLeu-240
 249-LysThrPheAlaArgPheValPro-256
 283-AsnLeuValGlnGlyPhe-288
 313-PheValGlnValGlyGluPheAlaArgValAlaGlnGluGlu-326
 372-GlyPhePheAlaAspPheAlaGluAsnPheGlyAlaGlyVal-385
 408-PheGlyAspAspPheAlaHisGluValGlyGlu-418
 465-CysSerPheSerGlnValGlyGlnMetGly-474

Antigenic Index - Jameson-Wolf

12-HisGlyCysGlyGly-16
 31-GluGlnGlyAlaArgLeuAla-37
 54-ValAspPheGlnArgArgPheGlyGluVal-63
 98-ArgAlaThrArgThrIleAspGlyAspLeuAlaGlu-109
 131-IleArgAlaArgAlaAspThrGlyAsnGluValAlaArgCysGluGly-146
 176-ProAsnPheGlyGlnValLysArgMetIle-185
 195-HisAspLeuAspValHisArgProPheArgGlu-205

-793-

224-GlyAspAspPheCysSer-229
 244-MetGluPheHisProLysThrPhe-251
 259-ValGlyMetArgThrGluAla-265
 279-HisHisAspGlyAsnLeu-284
 288-PheGlyGlnGlnArgProGluValProVal-297
 320-AlaArgValAlaGlnGluGluHisGlyArgValValAla-332
 344-PheGlnArgLysThrAlaAspVal-351
 362-CysHisGlyGlyGluThrGlyGlu-369
 391-CysTyrGlyLysArgThrGluArgAlaArgThr-401
 408-PheGlyAspAspPheAlaHisGluVal-416
 428-GlnGlnGlyAlaAlaArgAlaGlyGlyGln-437
 459-GlyGlySerHisArgSerCysSer-466
 471-GlyGlnMetGlyGlyLysArgLeuThrValArgPheGlyGlyLysArgIleArgAsnArgPheLeuAspCys
 AsnLysPheLeuGlu-499
 508-LysThrMetAspAlaIleIle-514
 516-GlnAspPheArgTyr-520

Hydrophilic Regions - Hopp-Woods

31-GluGlnGlyAlaArgLeuAla-37
 54-ValAspPheGlnArgArgPheGlyGlu-62
 98-ArgAlaThrArgThrIleAspGlyAspLeuAlaGlu-109
 131-IleArgAlaArgAlaAspThrGlyAsnGluValAlaArgCysGluGly-146
 180-GlnValLysArgMetIle-185
 195-HisAspLeuAspVal-199
 201-ArgProPheArgGlu-205
 244-MetGluPheHisPro-248
 259-ValGlyMetArgThrGluAla-265
 289-GlyGlnGlnArgProGluVal-295
 320-AlaArgValAlaGlnGluGluHisGlyArgValValAla-332
 344-PheGlnArgLysThrAlaAspVal-351
 364-GlyGlyGluThrGlyGlu-369
 393-GlyLysArgThrGluArgAlaArgThr-401
 412-PheAlaHisGluVal-416
 429-GlnGlyAlaAlaArgAlaGlyGly-436
 473-MetGlyGlyLysArgLeuThr-479
 482-PheGlyGlyLysArgIleArgAsnArgPheLeuAsp-493
 508-LysThrMetAspAlaIleIle-514
 516-GlnAspPheArgTyr-520
g513-2

AMPHI Regions - AMPHI

6-ThrGluTrpLeuHisGlyTrpValGlyAlaIleAsnAspProMetTrp-21
 48-GlyArgSerIleLysGlu-53
 66-GlyIleThrProPheGlnAlaPheValThrGlyLeuAla-78
 119-SerSerLeuAlaGlnLeuPheLysValArgAsp-129
 146-GlyLeuGlyGlnLysTrpLeuGlyVal-154
 176-IleAlaAspThrVal-180
 205-GlyGlyIleArgArgIleSerLysAlaAla-214
 243-ValPheGlyGlnIlePheSer-249
 259-GlyGlyLeuLeuGlyGlyLeuIle-266
 288-AlaProAsnAlaAlaAlaAla-295
 303-GlnGlyMetIleGlnMetLeuGlyValPheValAsp-314
 332-ProTyrGlyAspLeu-336
 347-ValSerGlnValGlyGlnTrp-353
 391-ThrAlaValPheArgMet-396
 403-TyrPheGlyAlaValAla-408

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423-IleMetAlaTrpIleAsnLeuValAlaIleLeuLeuLeuSer-436

Antigenic Index - Jameson-Wolf

1-MetAsnGluAsnPhe-5
 48-GlyArgSerIleLysGluMetLeuGlyGlyArgLysGlnGlyAspAspProHisGly-66
 126-LysValArgAspCysAspAsnHisHisPheArgGlyGlyProAla-140
 208-ArgArgIleSerLysAlaAlaGlu-215
 273-GlyIleLysArgGlyLeuTyrSerAsnGluAlaGlyMetGlySerAlaProAsnAla-291
 295-AlaGluValLysHisProValSer-302
 331-GlnProTyrGlyAspLeuSerGly-338
 375-AlaTyrAlaGluSerAsnVal-381
 444-ArgAspTyrThrAlaLysLeuLysMetGlyLysAspProGluPheLysLeuSerGluHisProGlyLeuLys
 ArgArgIleLysSerAspValTrp-475

Hydrophilic Regions - Hopp-Woods

48-GlyArgSerIleLysGluMetLeuGlyGlyArgLysGlnGlyAspAspProHisGly-66
 126-LysValArgAspCysAspAsnHisHis-134
 208-ArgArgIleSerLysAlaAlaGlu-215
 273-GlyIleLysArgGlyLeuTyr-279
 295-AlaGluValLysHisProVal-301
 450-LeuLysMetGlyLysAspProGluPheLysLeuSerGlu-462
 464-ProGlyLeuLysArgArgIleLysSer-472

g515-1**AMPHI Regions** - AMPHI

8-ArgAlaAlaGlyValAlaArgGlyLeuHisSerGluPheAlaArg-22
 59-AspValArgPhePheAlaGlnValGluGluIleGlyGlnAspPhePheAlaAspAla-77
 90-AlaGlyGluCysAlaAspGluValSerAspGlnPro-101
 122-GluSerAlaGlnSerAlaAlaGlyGlyGlyLeuThrAspGlyPheGly-137
 176-CysGlyLysThrValGlyVal-182
 192-LeuHisArgArgAla-196
 233-ValAlaAspValLeuArg-238
 251-PheGlyGlyValAlaGlyAspValGlyGlyGlyAlaAspGlyValAlaGlnGlyLeuPheGlyGluVal-273
 306-HisAlaAspAlaLeuSerGluArgPheAla-315
 334-AlaAlaGluValGluGluPheGlySerGlyValValGluGln-347

Antigenic Index - Jameson-Wolf

24-ValThrAlaGluGluIleAlaPhe-31
 38-HisGluAlaArgArgGlyGlyAsnThrPhe-47
 51-IleAlaAlaAlaGluArgAlaGlyAsp-59
 67-GluGluIleGlyGln-71
 77-AlaValAspGlnGluThr-82
 84-LeuAlaValGluArgAlaAlaGlyGluCysAlaAspGluValSerAspGlnProAlaArgAsnGlyGlyIleGluGluAspGlyValAlaAlaCysArgAspAlaAlaAlaGluSerAlaGln-125
 128-AlaGlyGlyGlyLeuThrAspGly-135
 160-GlyGlyAsnAspAlaAlaGlyAsn-167
 192-LeuHisArgArgAla-196
 217-AlaAspGlyGlyPheArg-222
 242-GlyValGlyLysSerGlyAla-248
 257-AspValGlyGlyGlyAlaAspGlyVal-265
 284-AspValAsnGlyAsnValGln-290
 309-AlaLeuSerGluArgPheAla-315
 318-GlyPheGlyGlyGlyArgAlaArgCys-326
 328-CysGlnValGluArgAlaAlaGluValGluPheGlySerGlyVal-344
 347-GlnHisAsnAsnLeu-351

Hydrophilic Regions - Hopp-Woods

24-ValThrAlaGluGluIleAlaPhe-31
 38-HisGluAlaArgArgGlyGlyAsn-45
 51-IleAlaAlaAlaGluArgAlaGlyAsp-59
 77-AlaValAspGlnGluThr-82
 84-LeuAlaValGluArgAlaAlaGlyGluCysAlaAspGluValSerAspGlnProAlaArgAsnGlyGlyIleGluGluAspGlyValAlaAlaCysArgAspAlaAlaAlaGluSerAlaGln-125
 162-AsnAspAlaAlaGly-166
 192-LeuHisArgArgAla-196
 258-ValGlyGlyGlyAlaAspGlyVal-265
 309-AlaLeuSerGluArgPheAla-315
 322-GlyArgAlaArgCys-326
 328-CysGlnValGluArgAlaAlaAlaGluValGluGluPheGly-341
g519-1

AMPHI Regions - AMPHI

13-ValPheGlyPheLysSerPhe-19
 29-ValValGluArgLeuGlyArgPheHisArgAlaLeuThrAlaGly-43
 105-MetAlaIleThrGlnLeuAlaGlnThrThrLeuArgSerVal-118
 139-ValSerAlaLeuAspGluAlaAla-146
 165-GlnGluIleLeuArgAlaMetGln-172
 192-LysIleGluGlnIle-196
 221-SerAsnAlaGluLysIleAlaArgIleAsn-230
 249-AlaIleArgGlnIleAlaAlaAla-256
 273-GlnTyrValAlaAlaPheAsnAsnLeuAlaLys-283
 292-AlaAsnValAlaAspIleGlySerLeuIleSerAlaGlyMetLysIleIleAspSerSerLysThrAla-314

Antigenic Index - Jameson-Wolf

31-GluArgLeuGlyArgPheHisArg-38
 58-HisSerLeuLysGluIleProLeuAspValProSerGln-70
 72-CysIleThrArgAspAsnThrGlnLeuThrVal-82
 91-ThrAspProLysLeuAlaSer-97
 122-MetGluLeuAspLysThrPheGluGluArgAspGluIleAsn-135
 141-AlaLeuAspGluAlaAlaGly-147
 154-LeuArgTyrGluIleLysAspLeuValPro-163
 175-IleThrAlaGluArgGluLysArgAlaArgIleAlaGluSerGluGlyArgLysIleGluGln-195
 197-AsnLeuAlaSerGlyGlnArgGluAlaGluIleGlnGlnSerGluGlyGluAlaGlnAla-216
 219-AsnAlaSerAsnAlaGluLysIleAlaArgIleAsnArgAlaLysGlyGluAlaGluSerLeuArgLeu-241
 245-AlaAsnAlaGluAlaIleArg-251
 258-GlnThrGlnGlyGlyAlaAspAlaValAsn-267
 281-LeuAlaLysGluSerAsnThr-287
 303-AlaGlyMetLysIleIleAspSerSerLysThrAlaLys-315

Hydrophilic Regions - Hopp-Woods

31-GluArgLeuGlyArgPheHisArg-38
 58-HisSerLeuLysGluIleProLeu-65
 73-IleThrArgAspAsnThr-78
 91-ThrAspProLysLeu-95
 122-MetGluLeuAspLysThrPheGluGluArgAspGluIleAsn-135
 141-AlaLeuAspGluAlaAla-146
 154-LeuArgTyrGluIleLysAspLeuValPro-163
 175-IleThrAlaGluArgGluLysArgAlaArgIleAlaGluSerGluGlyArgLysIleGluGln-195
 200-SerGlyGlnArgGluAlaGluIleGlnGlnSerGluGlyGluAlaGlnAla-216

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221-SerAsnAlaGluLysIleAlaArgIleAsnArgAlaLysGlyGluAlaGluSerLeuArgLeu-241
 245-AlaAsnAlaGluAlaIleArg-251
 281-LeuAlaLysGluSerAsn-286
 306-LysIleIleAspSerSerLysThrAlaLys-315
g520-1

AMPHI Regions - AMPHI

109-AspGlyGlnIleTrpArgAlaPheSerSerLeuLys-120

Antigenic Index - Jameson-Wolf

20-LysProSerArgArgAlaLeu-26
 47-AlaSerGlyLysIleSerLeuPro-54
 84-ProProAsnAsnSerThrThrThrSerThrSerLeuArgAlaThrSerSerAsnGlySerLeuThrLysAlaAlaAsp-109
 122-HisMetAlaGluIleArgIleSerArgProLysArgArgGluIleSerSerAlaLeuSerArgAsnThrAlaAlaPro-148
 150-ProThrValProLysProLysArgProMet-159
 166-SerProCysLysProThrGluMet-173

Hydrophilic Regions - Hopp-Woods

20-LysProSerArgArgAlaLeu-26
 93-ThrSerLeuArgAlaThrSerSer-100
 103-SerLeuThrLysAlaAlaAsp-109
 122-HisMetAlaGluIleArgIleSerArgProLysArgArgGluIleSer-137
 140-LeuSerArgAsnThrAla-145
 151-ThrValProLysProLysArgProMet-159
 168-CysLysProThrGluMet-173

g521**AMPHI Regions - AMPHI**

39-ThrLysProSerLysSerCys-45
 50-LeuProProIleGly-54
 86-ValLysThrValSerLysProAlaLysSer-95
 126-AlaGlnLysMetLeu-130
 132-GlnAlaArgLeuAlaLysGlyGlyAsn-140
 146-IleAsnAlaLeuSerAsnValLeuAspArgGlnGlnAsnIle-159

Antigenic Index - Jameson-Wolf

1-MetLysSerLysLeu-5
 36-ValTyrThrThrLysProSerLysSerCysHisSerThrAspLeuProProIleGlyAsnTyrSerSerGluArgTyrIle-62
 65-GlnThrProGluProAlaProSerProSerAsnGlyGlyGln-78
 80-ValLysTyrLysAlaProVal-86
 88-ThrValSerLysProAlaLysSerAsnThrProProGlnGlnAlaProValAsnAsnSerArgArgSerIleLeuGluAlaGluLeuSerAsnGluArgLysAlaLeuThrGluAlaGlnLysMetLeuSer-131
 134-ArgLeuAlaLysGlyGlyAsnIleAsnHisGlnLys-145
 152-ValLeuAspArgGlnGlnAsn-158
 162-LeuGlnArgGluLeuGlyArg-168

Hydrophilic Regions - Hopp-Woods

1-MetLysSerLysLeu-5
 40-LysProSerLysSerCysHis-46
 57-SerSerGluArgTyrIle-62
 66-ThrProGluProAlaProSerProSerAsnGly-76
 80-ValLysTyrLysAlaProVal-86
 88-ThrValSerLysProAlaLysSerAsnThrPro-98

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105-AsnAsnSerArgArgSerIleLeuGluAlaGluLeuSerAsnGluArgLysAlaLeuThrGluAlaGlnLys
MetLeuSer-131

152-ValLeuAspArgGlnGlnAsn-158

162-LeuGlnArgGluLeuGlyArg-168

g522

AMPHI Regions - AMPHI

57-LysIleValGluSerCysMetLys-64

96-MetTrpGluGlnProLeuAspGlyLeuSerGluLysGlnIleSerSerPheGlyLysLeuGlyAlaGlnGlu
InLeuAspLeuLeuGlyGlyAla-127

Antigenic Index - Jameson-Wolf

1-MetThrGluProLysHisGluThrProThrGluGluGlnValAlaAlaArgLysLysAlaLysAlaLysIleAr
gThr-26

48-AlaMetSerLysProGlnAlaLysGlnIysIleValGluSerCysMetLys-64

71-LysTrpGlnAsnAspLeuLysAlaArgGlyLeuAspAlaAspAsnThrArgLeu-88

103-GlyLeuSerGluLysGlnIleSerSerPheGlyLysLeuGlyAla-117

128-AsnAlaPheGluThrArgAspLysGlnCysValAlaAspLeuLysAlaAsp-144

Hydrophilic Regions - Hopp-Woods

1-MetThrGluProLysHisGluThrProThrGluGluGlnValAlaAlaArgLysLysAlaLysAlaLysIleAr
gThr-26

48-AlaMetSerLysProGlnAlaLysGlnLysIleValGluSerCysMet-63

72-TrpGlnAsnAspLeuLysAlaArgGlyLeuAspAlaAspAsnThrArgLeu-88

103-GlyLeuSerGluLysGlnIle-109

130-PheGluThrArgAspLysGlnCysValAlaAspLeuLysAlaAsp-144

g525-1

AMPHI Regions - AMPHI

59-GluPheAlaGluPheValAsnSerHisProGln-69

86-LysHisTrpMetLysAsnGly-92

125-ArgLeuProThrIleAspGluTrpGluPhe-134

154-ThrIleLeuAspTrpTyr-159

164-ArgLysGlyLeuHisAspValGly-171

178-TrpGlyValTyrAsp-182

188-TrpGluTrpThrGlu-192

Antigenic Index - Jameson-Wolf

24-ValGlnIleGluGlyGlySerTyrArgProLeuTyrLeuLysLysAspThrGlyLeuIleLys-44

46-LysProPheLysLeuAspLysTyrProValThr-56

67-HisProGlnTrpGlnLysGlyArgIleGlySerLysGlnAlaGlu-81

88-TrpMetLysAsnGlySerArgSerTyrAlaProLysAlaGlyGluLeuLysGlnPro-106

122-GlnGlyLysArgLeuProThrIleAspGluTrpGlu-133

140-AlaThrGlnLysAsnGlySerAsnGluProGlyTyrAsnArgThr-154

159-TyrAlaAspGlyGlyArgLysGlyLeuHisAspValGlyLysAspArgProAsnTyr-177

190-TrpThrGluAspPheAsnSerSerLeuLeuSerSerGlyAsnAla-204

213-AlaSerValGlyAlaSerAspSerSerAsnTyr-223

234-SerLeuGlnSerLysTyr-239

245-GlyPheArgCysAlaSerArg-251

Hydrophilic Regions - Hopp-Woods

35-TyrLeuLysLysAspThrGlyLeuIleLys-44

46-LysProPheLysLeuAspLysTyrPro-54

71-GlnLysGlyArgIleGlySerLysGlnAlaGlu-81

91-AsnGlySerArgSerTyrAla-97

99-LysAlaGlyGluLeuLysGln-105

122-GlnGlyLysArgLeuProThr-128

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140-AlaThrGlnLysAsnGlySerAsnGluProGlyTyr-151
 162-GlyGlyArgLysGlyLeuHisAspValGlyLysAspArgProAsn-176
 216-GlyAlaSerAspSerSerAsn-222

g527

AMPHI Regions - AMPHI

7-PhePheGlnProValGln-12
 29-AspAlaAlaGluLeuValGluLeuPheAlaLeuPhePro-41
 73-GlyLysGlyIleGluArgGlnValAspAsnIleAlaAspValTyrGlyPhe-89

Antigenic Index - Jameson-Wolf

19-GlyArgSerAlaValGlyMetGlyGlySerAspAlaAlaGlu-32
 52-GlnLysProArgLeuGlyCysArg-59
 71-PheMetGlyLysGlyIleGluArgGlnValAspAsnIleAla-84
 107-LeuLeuArgLysGlyThrGlyLeuGluLysThrCysArgProLysProPheValGlnProHisGlyGlyArg-130

Hydrophilic Regions - Hopp-Woods

26-GlyGlySerAspAlaAlaGlu-32
 53-LysProArgLeuGlyCys-58
 71-PheMetGlyLysGlyIleGluArgGlnValAspAsnIleAla-84
 107-LeuLeuArgLysGlyThrGlyLeuGluLysThrCysArgProLysPro-122

g528

AMPHI Regions - AMPHI

23-ArgLeuAlaGlyTrpTyrGluCysSerSerLeuSerGlyTrpCysLysProArgLysProAlaAlaIle-45
 69-AsnArgSerValArg-73
 87-ArgLysIleGlyLysPhe-92
 106-ProLeuValGluArgPheLys-112

Antigenic Index - Jameson-Wolf

29-GluCysSerSerLeuSerGlyTrpCysLysProArgLysProAlaAla-44
 49-AspIleGlyGlyGluSerProLeuSerLeuGluAspTyrGluIleProLeuSerAspGlyAsnArgSerValArgAlaAsnGluTyrGluSerAlaGlnLysSerTyrPhe-85
 88-LysIleGlyLysPheGluAlaCysGlyLeuAspTrpArgThrArgAspGlyLysProLeuValGluArgPheLysGlnGluGlyPheAspCysLeuGluLysGlnGlyLeuArgArgAsnGlyLeuSerGluArgValArgTrp-135

Hydrophilic Regions - Hopp-Woods

37-CysLysProArgLysProAlaAla-44
 54-SerProLeuSerLeuGluAspTyrGluIleProLeu-65
 67-AspGlyAsnArgSerValArgAlaAsnGluTyrGluSerAlaGln-81
 88-LysIleGlyLysPheGluAlaCys-95
 99-TrpArgThrArgAspGlyLysProLeuValGluArgPheLysGlnGluGlyPheAspCysLeuGluLysGlnGlyLeuArgArgAsnGlyLeuSerGluArgValArgTrp-135

g531

AMPHI Regions - AMPHI

64-LeuAlaAspTyrMetAla-69
 90-GlySerIleIleGlyIlePhePheSerLeuProGlyLeuIleLeuGly-105
 108-IleGlyAlaAlaAlaGly-113
 132-LeuLeuGlyLeuValVal-137

Antigenic Index - Jameson-Wolf

77-ThrGlyAlaGlyLysLeuAlaVal-84
 114-GluLeuIleAspArgArgAsnMet-121

Hydrophilic Regions - Hopp-Woods

114-GluLeuIleAspArgArgAsnMet-121

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g532-2

AMPHI Regions - AMPHI

6-LysLysGlnAlaAsp-10
 27-AlaLeuLeuSerAlaValThrHisLeuLeuAlaIlePheValProMetIleThr-44
 76-TyrLeuGlnValAsnArgPheGlySerVal-85
 122-SerThrLeuLeuGlyValSerPhe-129
 147-LysValIleThrProThrVal-153
 184-ThrPheGlySerMetGluAsnLeuGly-192
 206-CysMetLysAsnPro-210
 224-GlyTyrIleValAlaLeu-229
 236-PheSerAlaLeuGlnAsnLeuPro-243
 271-LeuGlyValPheGluAlaValGlyAspLeuThrAla-282
 297-ThrLysArgLeuArgGlyGlyVal-304
 307-AspGlyLeuValSerValIleAlaThrAlaLeuGly-318
 338-AlaSerArgHisValGlyLysTyr-345
 361-ArgAlaPheThrThrIleProSerProVal-370

Antigenic Index - Jameson-Wolf

3-GluThrMetLysLysGlnAlaAspSerProAspLeu-14
 16-TyrGlyLeuGluAspArgProProPhe-24
 80-AsnArgPheGlySer-84
 94-XxxXxxXxxXxxSerSer-99
 108-AlaGlyMetLysGluGlyGlyLeuSerGluGlyAla-119
 177-PheGlyAlaLysAlaAspGlyThrPheGlySer-187
 207-MetLysAsnProLeuLeuArg-213
 286-ValSerAspGlnProIleGluGlyGluGluTyrThrLysArgLeuArgGlyGlyValLeu-305
 394-GlyIleArgArgArgGluAlaVal-401
 431-IleSerGlyGlyGly-435
 445-LeuProGluAspLysThrGluAlaAlaValLysPheAspThrAspHisLeuGluHis-463

Hydrophilic Regions - Hopp-Woods

3-GluThrMetLysLysGlnAlaAspSerProAsp-13
 18-LeuGluAspArgProProPhe-24
 109-GlyMetLysGluGlyGlyLeuSer-116
 179-AlaLysAlaAspGly-183
 289-GlnProIleGluGlyGluGluTyrThrLysArgLeuArgGly-302
 394-GlyIleArgArgArgGluAlaVal-401
 445-LeuProGluAspLysThrGluAlaAlaValLysPheAspThrAspHisLeuGluHis-463

g537

AMPHI Regions - AMPHI

38-GlnIleArgAspGlyGlyAspAlaLeuHisTyrLeuAsnArgIle-52
 86-HisGlyGluHisHis-90
 109-GlyTyrLeuTyrAsnGlyValHisGlu-117
 138-ArgGlnValAspAlaLeuMetSerAlaIleTyr-148
 180-AsnGlySerPheGluArg-185
 190-GlyArgArgGlnProGluAlaGlyArgLysTyrTyrArgAsnAlaCys-205
 281-ArgProValArgValLeuThrAlaGly-289
 315-TyrThrAlaValPheAspTyrValArgAsnGly-325
 374-ThrArgTyrThrTyr-378

Antigenic Index - Jameson-Wolf

21-ThrGlnAsnGlnSerLeuProAlaGly-29
 32-ValTyrProSerAlaProGlnIleArgAspGlyGlyAspAla-45
 69-AsnSerAlaArgArgHisAlaArg-76

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80-LeuAsnProGluAspGlyHisGlyGluHisHisProAspAsnProHis-95
 99-GlnLysLeuThrGluArgThrArgLeu-107
 115-ValHisGluAsnIleSerThrGluGluGluAlaAlaGluSerSerAspSerAspIleArgThrGlnGlnArg
 GlnValAsp-141
 152-SerLeuLeuAspArgHisThrAspGluAlaGly-162
 165-PheValArgGluAsnGlyLysThr-172
 178-GlnGlyAsnGlySerPheGluArgAlaCysAlaLysGlyArgArgGlnProGluAlaGlyArgLysTyrTyr
 ArgAsnAlaCysHisAsnGly-208
 238-TyrGlyGluArgProAspProValProGluTyrGluIleThrGlyAsnProAlaSer-256
 258-AspPheSerGluAlaAlaGly-264
 266-IleAlaMetLysSer-270
 274-TyrGlnGlyLysAsnGluIleArgPro-282
 287-ThrAlaGlyAsnAspProAsnGlyArgLeuThr-297
 321-TyrValArgAsnGlyArgHisAlaGln-329
 334-PheArgThrArgLysProAspTyrProTyr-343
 345-GluValAsnGlyGlyGluThrLeuAlaValArgLysGlyGluLys-359
 364-TrpArgGlyArgTrpCysLeu-370
 380-ArgGlnPheGlyAsnSer-385
 389-LeuArgHisGluAlaGlyGly-395
 402-GlyMetAlaGlySerArgIleArgLeuThrProGluAspSerProGluArgGly-419

Hydrophilic Regions - Hopp-Woods

37-ProGlnIleArgAspGlyGlyAsp-44
 69-AsnSerAlaArgArgHisAlaArg-76
 81-AsnProGluAspGlyHisGlyGluHisHisProAsp-92
 100-LysLeuThrGluArgThrArgLeu-107
 119-IleSerThrGluGluGluAlaAlaGluSerSerAspSerAspIleArgThrGlnGlnArgGlnValAsp-141
 152-SerLeuLeuAspArgHisThrAspGluAlaGly-162
 165-PheValArgGluAsnGlyLys-171
 181-GlySerPheGluArgAlaCysAlaLysGlyArgArgGlnProGluAlaGlyArgLysTyrTyrArg-202
 240-GluArgProAspProValProGluTyrGluIle-250
 258-AspPheSerGluAlaAlaGly-264
 266-IleAlaMetLysSer-270
 275-GlnGlyLysAsnGluIleArgPro-282
 289-GlyAsnAspProAsnGlyArgLeuThr-297
 323-ArgAsnGlyArgHisAlaGln-329
 334-PheArgThrArgLysProAsp-340
 352-LeuAlaValArgLysGlyGluLys-359
 389-LeuArgHisGluAla-393
 406-SerArgIleArgLeuThrProGluAspSerProGluArgGly-419
g538

AMPHI Regions - AMPHI

41-ThrAlaLeuAlaGluAlaValGluLeuValLysAlaAlaGly-54
 78-LysAlaAlaGluLeuSerGluAlaValAla-87
 104-GlnGluArgAsnLeuGluLysIleLeuGlnCysArgValLeuAspArgVal-120
 144-GlnLeuSerHisLeuAlaGlyArgLeuIleArgGlyTyrGlyHisLeuGln-160
 187-IleAsnAlaLeuLysLysGlnLeuAla-195
 211-GlyArgIleLysThrPheAlaLeuValGlyTyrThrAsn-223
 230-PheAsnArgLeuThrLys-235
 270-GlyPheValSerAspLeuProHisLysLeuIleSerAlaPheSerAlaThrLeuGlu-288
 306-AsnSerGlyGlnGlnIleGluAspValGluAsnValLeuGlnGluIleHis-322
 364-GluAsnThrGlyIleAspAlaLeuArgGluAlaIleAlaGluTyrCysAla-380

Antigenic Index - Jameson-Wolf

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1-SerGlyArgThrGlyArgAsnSerAlaThrGlnAlaGlnProGluArgVal-17
 24-LeuAspLysAspAspThrGlySerAsnAlaAlaArg-35
 47-ValGluLeuValLys-51
 53-AlaGlyGlyAspSerValArgValGluThrAlaLysArgAspArgProHisThr-70
 76-ThrGlyLysAlaAlaGluLeuSerGlu-84
 99-GluLeuThrProThrGlnGluArgAsnLeuGluLys-110
 128-AlaArgArgAlaArgThrGlnGluGlyArgLeuGlnVal-140
 160-GlnSerGlnArgGlyGlyIleGlyMetLysGlyProGlyGluThrLysLeuGluThrAspArgArgLeuThr
 Ala-184
 188-AsnAlaLeuLysLysGlnLeuAlaAsnLeuLysLysGlnArgAlaLeuArgArgLysSerArgGluSerGly
 ArgIleLysThr-215
 223-AsnValGlyLysSerSerLeu-229
 232-ArgLeuThrLysSerGlyIleTyrAla-240
 286-ThrLeuGluGluThrValGln-292
 302-AlaAlaAlaArgAsnSerGlyGlnGlnIleGluAspValGluAsnValLeu-318
 332-TyrAsnLysThrAspLeuLeuProSerGluGluGlnAsnThrGlyIle-347
 364-GluAsnThrGlyIleAspAlaLeuArgGluAlaIle-375
 380-AlaAlaAlaProAsnThrAspGluThrGluMetPro-391

Hydrophilic Regions - Hopp-Woods

1-SerGlyArgThrGlyArgAsnSerAla-9
 12-AlaGlnProGluArg-16
 24-LeuAspLysAspAspThrGlySerAsnAlaAlaArg-35
 47-ValGluLeuValLys-51
 53-AlaGlyGlyAspSerValArgValGluThrAlaLysArgAspArgProHis-69
 77-GlyLysAlaAlaGluLeuSerGlu-84
 100-LeuThrProThrGlnGluArgAsnLeuGluLys-110
 128-AlaArgArgAlaArgThrGlnGluGlyArgLeuGlnVal-140
 160-GlnSerGlnArgGlyGlyIle-166
 170-GlyProGlyGluThrLysLeuGluThrAspArgArgLeuThrAla-184
 188-AsnAlaLeuLysLysGlnLeuAlaAsnLeuLysLysGlnArgAlaLeuArgArgLysSerArgGluSerGly
 ArgIleLys-214
 286-ThrLeuGluGluThrValGln-292
 302-AlaAlaAlaArgAsnSerGlyGlnGlnIleGluAspValGluAsnValLeu-318
 336-AspLeuLeuProSerGluGluGlnAsn-344
 369-AspAlaLeuArgGluAlaIle-375
 383-ProAsnThrAspGluThrGluMetPro-391

g538**AMPHI Regions - AMPHI**

41-ThrAlaLeuAlaGluAlaValGluLeuValLysAlaAlaGly-54
 78-LysAlaAlaGluLeuSerGluAlaValAla-87
 104-GlnGluArgAsnLeuGluLysIleLeuGlnCysArgValLeuAspArgVal-120
 144-GlnSerSerHisLeuAlaGlyArgLeuIleArgGlyTyrGlyHisLeuGln-160
 187-IleAsnAlaLeuLysLysGlnLeuAla-195
 211-GlyArgIleLysThrPheAlaLeuValGlyTyrThrAsn-223
 230-PheAsnArgLeuThrLys-235
 270-GlyPheValSerAspLeuProHisLysLeuIleSerAlaPheSerAlaThrLeuGlu-288
 306-AsnSerGlyGlnGlnIleGluAspValGluAsnValLeuGlnGluIleHis-322
 364-GluAsnThrGlyIleAspAlaLeuArgGluAlaIleAlaGluTyrCysAla-380

Antigenic Index - Jameson-Wolf

1-SerGlyArgThrGlyArgAsnSerAlaThrGlnAlaGlnProGluArgVal-17
 24-LeuAspLysAspAspThrGlySerAsnAlaAlaArg-35
 47-ValGluLeuValLys-51
 53-AlaGlyGlyAspSerValArgValGluThrAlaLysArgAspArgProHisThr-70

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76-ThrGlyLysAlaAlaGluLeuSerGlu-84
 99-GluLeuThrProThrGlnGluArgAsnLeuGluLys-110
 128-AlaArgArgAlaArgThrGlnGluGlyArgLeuGlnVal-140
 160-GlnSerGlnArgGlyGlyIleGlyMetLysGlyProGlyGluThrLysLeuGluThrAspArgArgLeuThr
 Ala-184
 188-AsnAlaLeuLysLysGlnLeuAlaAsnLeuLysLysGlnArgAlaLeuArgArgLysSerArgGluSerGly
 ArgIleLysThr-215
 223-AsnValGlyLysSerSerLeu-229
 232-ArgLeuThrLysSerGlyIleTyrAla-240
 286-ThrLeuGluGluThrValGln-292
 302-AlaAlaAlaArgAsnSerGlyGlnGlnIleGluAspValGluAsnValLeu-318
 332-TyrAsnLysThrAspLeuLeuProSerGluGluGlnAsnThrGlyIle-347
 364-GluAsnThrGlyIleAspAlaLeuArgGluAlaIle-375
 380-AlaAlaAlaProAsnThrAspGluThrGluMetPro-391

Hydrophilic Regions - Hopp-Woods

1-SerGlyArgThrGlyArgAsnSerAla-9
 12-AlaGlnProGluArg-16
 24-LeuAspLysAspAspThrGlySerAsnAlaAlaArg-35
 47-ValGluLeuValLys-51
 53-AlaGlyGlyAspSerValArgValGluThrAlaLysArgAspArgProHis-69
 77-GlyLysAlaAlaGluLeuSerGlu-84
 100-LeuThrProThrGlnGluArgAsnLeuGluLys-110
 128-AlaArgArgAlaArgThrGlnGluGlyArgLeuGlnVal-140
 160-GlnSerGlnArgGlyGlyIle-166
 170-GlyProGlyGluThrLysLeuGluThrAspArgArgLeuThrAla-184
 188-AsnAlaLeuLysLysGlnLeuAlaAsnLeuLysLysGlnArgAlaLeuArgArgLysSerArgGluSerGly
 ArgIleLys-214
 286-ThrLeuGluGluThrValGln-292
 302-AlaAlaAlaArgAsnSerGlyGlnGlnIleGluAspValGluAsnValLeu-318
 336-AspLeuLeuProSerGluGluGlnAsn-344
 369-AspAlaLeuArgGluAlaIle-375
 383-ProAsnThrAspGluThrGluMetPro-391

g539**AMPHI Regions - AMPHI**

18-ArgGlnArgGluHisHisArgLeuHisHisThr-28
 44-LeuValGlyGlyPheAspPheLeuArgValIleGlyCysGlyGly-58
 108-AlaGlyGlyAlaGlyAsnAlaAla-115
 123-ArgAlaIleMetGlyPhe-128
 142-AspLeuValGluAspPheLeu-148
 172-AspAlaLeuCysAspCysLeuThr-179
 197-GlnValPheGlyAsnValGln-203
 220-PheGlyAlaAlaAlaGlnTyr-226
 328-GlyArgSerLeuThrAsnPro-334
 354-ValSerArgValAlaLysSerTrpSerPheAla-364
 366-MetProAspLeuValSerArgLeu-373

Antigenic Index - Jameson-Wolf

1-MetGluAspLeuGlnGluIleGly-8
 15-LysValGlyArgGlnArgGluHisHisArg-24
 26-HisHisThrGlnSerGlyAsnGlyLysAlaAspAsp-37
 63-ProAspPheGlnGlnAsnValGlyGluAlaAsp-73
 77-ValProAspAspAlaAlaAla-83
 88-IleGluValAspAlaAspAspAlaValCys-97
 102-LeuPheAspGlnProAspAlaGlyGlyAlaGlyAsnAlaAlaGluHis-117

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169-GlyIleAspAspAlaLeuCys-175
 229-MetAlaSerArgSerAlaSer-235
 242-ThrGluMetArgThr-246
 261-CysSerSerAspGlySerArgSer-268
 304-ThrThrCysSerSerThrSer-310
 313-ThrValSerSerLysValAlaGluLysAlaGluIle-324
 326-LeuCysGlyArgSerLeuThrAsnProThrVal-336
 348-TyrSerArgArgAlaValVal-354
 356-ArgValAlaLysSer-360
 369-LeuValSerArgLeuAsnArgLeuAspLeu-378

Hydrophilic Regions - Hopp-Woods

1-MetGluAspLeuGlnGluIleGly-8
 15-LysValGlyArgGlnArgGluHisHisArg-24
 31-GlyAsnGlyLysAlaAspAsp-37
 69-ValGlyGluAlaAsp-73
 78-ProAspAspAlaAlaAla-83
 88-IleGluValAspAlaAspAspAlaValCys-97
 102-LeuPheAspGlnProAspAlaGlyGly-110
 113-AsnAlaAlaGluHis-117
 169-GlyIleAspAspAlaLeu-174
 230-AlaSerArgSerAla-234
 242-ThrGluMetArgThr-246
 263-SerAspGlySerArg-267
 317-LysValAlaGluLysAlaGluIle-324
 348-TyrSerArgArgAlaValVal-354
 369-LeuValSerArgLeuAsnArgLeuAspLeu-378

g542**AMPHI Regions - AMPHI**

6-ArgIleArgArgCysSerVal-12

Antigenic Index - Jameson-Wolf

1-MetProLysTrpSerArgIleArgArgCysSerVal-12
 29-ProProSerAsnAla-33
 37-ValArgLeuLysSerSerAspGlyIleAlaSer-47
 56-GlySerMetProSerGluThrValSerHisLysSerSerArgAsnThrSerAlaSerArgArgAsnValSerProLysCysProPheGly-87
 90-CysArgGlnAspAlaAlaLysProArgArgPheGlyGlyLys-103
 107-LeuThrGlySerArg-111

Hydrophilic Regions - Hopp-Woods

5-SerArgIleArgArgCysSer-11
 37-ValArgLeuLysSerSerAspGlyIleAla-46
 58-MetProSerGluThrValSerHisLysSerAspSerSerArgAsnThrSerAlaSerArgArgAsnValSerPro-82
 90-CysArgGlnAspAlaAlaLysProArgArgPheGlyGly-102

g544-2**AMPHI Regions - AMPHI**

55-PheTrpPheProSerCysProGlyCysValSerGluMetProLysValThrLysThrAlaAsnAspTyrLys-78
 85-LeuAlaValAlaGlnProIleAspProIleGluSerValArgGlnTyrVal-101
 116-LysAlaValGlyGlnAlaPhe-122

Antigenic Index - Jameson-Wolf

1-MetLysLysIleLeu-5

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22-IleProAspSerLysThrAlaPro-29
 35-AspLeuHisGlyLysThrValSerAsnAlaAspLeuGlnGly-48
 59-SerCysProGlyCys-63
 66-GluMetProLysValThrLysThrAlaAsnAspTyrLysAsnLysAspPhe-82
 90-ProIleAspProIleGluSerValArgGlnTyrValLysAspTyrGly-105
 113-AspAlaAspLysAlaVal-118
 133-IleGlyLysLysGlyGluIleLeu-140
 144-ValGlyGluProAspPheGlyLysLeuTyrGlnGluIleAspThr-158

Hydrophilic Regions - Hopp-Woods

1-MetLysLysIleLeu-5
 23-ProAspSerLysThr-27
 66-GluMetProLysValThrLysThrAlaAsnAspTyrLysAsnLysAspPhe-82
 92-AspProIleGluSerValArgGlnTyrValLys-102
 113-AspAlaAspLysAlaVal-118
 133-IleGlyLysLysGlyGluIle-139

g547**AMPHI Regions - AMPHI**

7-PheAsnLysThrValAlaSerPheAlaGlnIleValGluThrPheAspVal-23
 62-AsnArgSerPheLys-66
 120-GluLeuLeuThrIleLeuValLys-127

Antigenic Index - Jameson-Wolf

3-ValAspAsnGlyPheAsnLysThrVal-11
 35-GlnMetLysGlnArgCysGly-41
 56-CysGlyPheGluIleProAsnArgSerPheLysGlu-67
 76-LeuSerGluArgPheArgThrAsnAlaGluValGluMet-88
 128-AsnLeuSerProAsnGlyLysLysArgPhe-137

Hydrophilic Regions - Hopp-Woods

36-MetLysGlnArgCys-40
 60-IleProAsnArgSerPheLysGlu-67
 76-LeuSerGluArgPheArgThrAsnAlaGluValGluMet-88
 129-LeuSerProAsnGlyLysLysArgPhe-137

g548**AMPHI Regions - AMPHI**

7-SerPheLeuValLeuAlaAlaLeuAlaCysLys-22
 31-AlaAlaSerSerSer-35
 41-AlaGluAsnAlaAlaLysPro-47
 89-PheThrHisCysProAspValCysProThr-98
 103-TyrSerAspThrLeuLysGlnLeuGlyGlyGln-113
 132-GluIleIleGlyLysTyrAlaLys-139

Antigenic Index - Jameson-Wolf

22-LysProGlnAspAsnSerAla-28
 33-SerSerSerAlaSer-37
 39-ProAlaAlaGluAsnAlaAlaLysProGlnThrArgGlyThrAspMetArgLysGluAspIleGlyGlyAspPheThrLeuThrAspGlyGluGlyLysProPheSer-74
 76-SerAspLeuLysGly-80
 93-ProAspValCysPro-97
 104-SerAspThrLeuLysGlnLeuGlyGlyGlnAlaLysAspValLys-118
 124-IleAspProGluArgAspThrProGluIleIleGlyLysTyrAlaLysGlnPheAsnProAspPhe-145
 150-AlaThrGlyGlyGln-154
 169-LysIleAsnGlnLysAspAspSerGluAsnTyrLeu-180
 189-LeuIleAspLysAsnGlyGlu-195

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200-SerProTyrGlySerGluProGluThrIleAlaAlaAspVal-213

Hydrophilic Regions - Hopp-Woods

22-LysProGlnAspAsnSerAla-28
 39-ProAlaAlaGluAsnAlaAlaLysProGlnThrArgGlyThrAspMetArgLysGluAspIleGlyGly-61
 64-ThrLeuThrAspGlyGluGlyLysPro-72
 76-SerAspLeuLysGly-80
 111-GlyGlyGlnAlaLysAspValLys-118
 124-IleAspProGluArgAspThrProGluIleIle-134
 170-IleAsnGlnLysAspAspSerGluAsnTyrLeu-180
 191-AspLysAsnGlyGlu-195
 203-GlySerGluProGluThrIleAlaAlaAspVal-213

g553**AMPHI Regions** - AMPHI

31-LeuAlaAlaValAlaGlyPheTyrGlyPheTyrThrAspLeu-44
 59-AsnLeuAlaAspIleValArgPheAlaAspAsp-69
 83-GluLeuGlySerLeu-87
 99-HisPheValValLeu-103
 162-GlyIleSerGlyLeuGlyArgThrLeuPhe-171
 173-LeuLeuAlaLeuAlaAlaMetGluValPheAlaPheLeu-186
 232-HisAspIleTyrSerLeuProProPro-240

Antigenic Index - Jameson-Wolf

11-LeuThrLysLysLeu-15
 45-ArgAlaLeuArgSerLysTyr-51
 55-LeuLysGlyGluAsnLeuAlaAsp-62
 75-ArgAlaLeuArgLeuAspLeuAspGluLeuGlySer-86
 106-ValSerSerAspGly-110
 115-AspProAlaSerGlyArgArgLysValLysThrGluGluIleSerArgLysPheThr-133
 140-TrpProAsnThrArgPheGluAlaGlyGluGluLysGlnGluIleArg-155
 163-IleSerGlyLeuGly-167
 192-LysIleGlyArgGlyGluSer-198
 202-IleGlyArgSerGlyCysGlyLysSerThrLeu-212
 216-LeuSerGlyAsnLeuProProGluSerGlyLysVal-227
 245-PheGluCysAspGlyGlnGlyArgThr-253
 258-GlyLeuAsnLeuAsnArg-263

Hydrophilic Regions - Hopp-Woods

11-LeuThrLysLysLeu-15
 45-ArgAlaLeuArgSer-49
 55-LeuLysGlyGluAsnLeuAlaAsp-62
 75-ArgAlaLeuArgLeuAspLeuAspGluLeuGlySer-86
 106-ValSerSerAspGly-110
 116-ProAlaSerGlyArgArgLysValLysThrGluGluIleSerArgLysPheThr-133
 144-ArgPheGluAlaGlyGluGluLysGlnGluIleArg-155
 192-LysIleGlyArgGlyGluSer-198
 205-SerGlyCysGlyLys-209
 220-LeuProProGluSerGlyLys-226
 245-PheGluCysAspGlyGlnGly-251

g554**AMPHI Regions** - AMPHI

35-AlaProThrLeuGlnThrProGluThrLeu-44
 71-AlaAlaLeuThrGlnLeuMet-77
 110-ArgMetPheValArgProGlyAspThrVal-119
 124-LeuLeuLysGlyMetIleAla-130

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141-AlaAspArgLeuGlyAsnGlySerIleGluAsnPheValGlnMetAsnLysGlu-159
 193-GluAlaLeuMetArgAspPheProGluTyrTyrProLeuPheSer-207
 280-ArgAlaLeuGlnAlaPheAspThrPro-288
 296-ThrValAlaGlnIle-300
 331-GluGlnIleLeuGluThrIleGlnProIleProAla-342

Antigenic Index - Jameson-Wolf

24-SerProAlaProAsnArgProThr-31
 37-ThrLeuGlnThrProGluThr-43
 53-LeuGlnSerArgGlnThrLeuSerAlaLysAsnThrAsnThrProValGlu-69
 84-LysAsnMetLysSerGlyAsnIleGlnSerGluGluAsnLeuLysIleProGlu-101
 104-TrpAlaSerGluGlySerArgMetPheValArgProGlyAspThrValSerThrAspLysLeuLeu-125
 142-AspArgLeuGlyAsnGlySerIleGluAsnPhe-152
 156-MetAsnLysGluAlaArgArgLeuGlyMetLysAsnThrValPheLysAsnProThrGlyLeuGlyArgGlu
 GlyGlnValSerThrAlaLysAsnLeuSerLeu-190
 194-AlaLeuMetArgAspPheProGluTyrTyr-203
 214-GluAsnIleGluGlnAsnAsnArgAsnIleLeu-224
 226-TyrArgAspAsnAsnValAsnGlyLeuLysAlaGlyHisThrGluSerGlyGlyTyr-244
 250-TyrSerGlyAsnGlyArgHis-256
 262-LeuGlySerGluSerAlaGluThrArgAlaSerAspAsnSerLysLeuLeuAsn-279
 286-AspThrProLysIleTyrProLysGlyLysThr-296
 302-IleSerGlyGlySerLysLysThrValArg-311
 323-ProHisLysGluAlaLysMetAlaGluGlnIleLeu-334
 342-AlaProValLysLysGlyGlnIleLeuGlyLysIleLysIleArgGlnAsnGlyHisThrIleAlaGluLys
 GluIleValAla-369
 371-GluAsnValGluLysArgSerArgTrpGlnArgLeu-382

Hydrophilic Regions - Hopp-Woods

26-AlaProAsnArgProThr-31
 57-GlnThrLeuSerAlaLysAsnThrAsnThrProValGlu-69
 85-AsnMetLysSerGlyAsnIleGlnSerGluGluAsnLeuLysIleProGlu-101
 107-GluGlySerArgMetPheValArgProGlyAspThrValSerThrAspLysLeuLeu-125
 156-MetAsnLysGluAlaArgArgLeuGlyMet-165
 174-ThrGlyLeuGlyArgGluGlyGlnValSerThrAlaLysAspLeuSerLeu-190
 214-GluAsnIleGluGlnAsnAsnArg-221
 227-ArgAspAsnAsnValAsn-232
 237-GlyHisThrGluSerGly-242
 264-SerGluSerAlaGluThrArgAlaSerAspAsnSerLysLeuLeuAsn-279
 289-LysIleTyrProLysGlyLysThr-296
 304-GlyGlySerLysLysThrValArg-311
 323-ProHisLysGluAlaLysMetAlaGluGlnIleLeu-334
 343-ProValLysLysGlyGlnIle-349

353-IleLysIleArgGlnAsnGly-359
 362-IleAlaGluLysGluIleValAla-369
 371-GluAsnValGluLysArgSerArgTrp-379
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AMPHI Regions - AMPHI

61-IleGluArgLeuLys-65

Antigenic Index - Jameson-Wolf

1-MetAspAsnLysThrLysLeuArgLeu-9

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52-ThrSerArgArgGlnGlnArgGlnPheIleGluArgLeuLysLysPheAspIleAspProGluLysGlyArgI
leAsnGluAlaAsnLeuArgArgMetTyrHisSerGlyGlyGlnHisGlnLysAspAla-95
102-SerGlnLysCysSerValAspGluAlaHisAlaMetPheLysLysArgProThrArgGlnGluIleAsn-12
4
127-AlaAlaLysGlnSerArgGlyGlnLysArgProHisArg-139

Hydrophilic Regions - Hopp-Woods

1-MetAspAsnLysThrLysLeuArgLeu-9
53-SerArgArgGlnGlnArgGlnPheIleGluArgLeuLysLysPheAspIleAspProGluLysGlyArgIleA
snGluAlaAsnLeuArgArgMetTyr-85
90-GlnHisGlnLysAspAla-95
105-CysSerValAspGluAlaHisAlaMetPheLysLysArgProThrArgGlnGluIleAsn-124
127-AlaAlaLysGlnSerArgGlyGlnLysArgProHisArg-139
g557

AMPHI Regions - AMPHI

22-GlyAlaAspGlyIle-26
55-SerGlyArgValAspAspAlaAla-62
113-ThrValSerValArgArgIleLeuAspTyrAlaAsp-124
142-ArgGlnAspValAlaGluGlnIle-149

Antigenic Index - Jameson-Wolf

20-LeuLysGlyAlaAspGlyIleSerProProLeuThrTyrArgSerTrpHisIleGluGlyGlyGlnAlaLeu-
43
54-AlaSerGlyArgValAspAspAlaAlaGly-63
68-LeuArgIleAspSerValSerGlnAsnLysGluThrTyrThr-81
100-GlnValLeuLysArgGlyGluProValGlyLysProMet-112
118-ArgIleLeuAspTyrAlaAspAsnGluIleLeuGlyLysGlnGluGluGluThrLeu-137
141-MetArgGlnAspValAlaGluGlnIleValArg-151

Hydrophilic Regions - Hopp-Woods

21-LysGlyAlaAspGlyIle-26
56-GlyArgValAspAspAlaAlaGly-63
68-LeuArgIleAspSerValSerGlnAsnLysGluThrTyrThr-81
100-GlnValLeuLysArgGlyGluProValGly-109
126-GluIleLeuGlyLysGlnGluGluGluThrLeu-137
141-MetArgGlnAspValAlaGluGlnIleValArg-151
g560

AMPHI Regions - AMPHI

30-PheArgAspGlyAlaHisLysMetAlaArgValTrpValGly-43
167-ArgMetAlaLysMetPhe-172
192-PheLeuLysTyrProGlyGlu-198
216-GluLeuMetGluLysCysGluHisLeuIleGlu-226

Antigenic Index - Jameson-Wolf

29-ProPheArgAspGlyAlaHisLysMet-37
63-GluHisIleProAspArgProSer-70
75-LysHisGlnSerGlyTrpGlu-81
95-ValAlaLysArgGluLeuPhe-101
116-IleGlyIleAspArgAsnAsnArgArgGluAlaAsnGluGlnLeuIle-131
134-GlyLeuAlaArgLysAsnGluGlyTyr-142
148-ProGluGlyThrArgLeuAlaProGlyLysArgGlyLysTyrLysLeuGlyGly-165
182-AsnSerGlyGluPheTrpProLysAsnSerPheLeuLysTyrProGlyGluIle-199
209-HisAlaSerGlySerGluAlaGluLeuMetGluLysCysGluHisLeuIle-225
242-MetProSerGluThr-246

Hydrophilic Regions - Hopp-Woods

29-ProPheArgAspGlyAlaHisLysMet-37
 64-HisIleProAspArgProSer-70
 95-ValAlaLysArgGluLeuPhe-101
 116-IleGlyIleAspArgAsnAsnArgArgGluAlaAsnGluGlnLeuIle-131
 134-GlyLeuAlaArgLysAsnGlu-140
 149-GluGlyThrArgLeuAlaProGlyLysArgGlyLysTyrLysLeuGlyGly-165
 211-SerGlySerGluAlaGluLeuMetGluLysCysGluHisLeuIle-225
 242-MetProSerGluThr-246

g561-2**AMPHI Regions - AMPHI**

6-ArgPheSerAspGly-10
 22-GlyLeuTrpValGlyLeuAlaAla-29
 46-AlaSerValIleGluGluAlaGlyAsn-54
 74-GlnIleAspAsnGlnIleAlaGluPheGluLysSerLeuLysArgIleSerGlnSerAsp-93
 128-AlaTyrArgArgProThrGlnIle-135
 188-ValIleArgProLeuGlnAlaLeuArgGluGlyAlaGluArgIleGly-203
 219-PheLysGlnValGlyArgCysPheAsnGln-228
 237-TyrAspAspLeuGluGlyGln-243
 247-GlnThrHisAsnLeuGluLysGln-254
 263-ArgThrThrArgAspLeuHisGlnSerTyr-272
 276-GlnAlaAlaGluGluPheLeuAsnHisIleLeuPro-287
 358-GlnThrLeuIleArgGlnLeuGly-365
 391-GlnGlyLeuHisAspSerIleAlaGlnAlaLeuThr-402
 433-GlyValGlnGluCysTyrGluAspValArgGluLeu-444
 455-LysGluPheProGluAlaValAlaAspLeuPheAlaArgPhe-468
 503-LeuSerAsnIleArgLysHisAlaArg-511
 539-ThrGluLysIleGlyGluProThr-546

Antigenic Index - Jameson-Wolf

4-ProThrArgPheSerAspGlyIlePro-12
 48-ValIleGluGluAlaGlyAsn-54
 66-AlaGlyGluGlySerProArgAlaGlnIleAspAsnGlnIleAlaGluPheGluLysSerLeuLysArgIleSerGlnSerAspAlaIleHis-96
 99-IleProSerAspAsnProLeuAla-106
 124-ProProLeuGlnAlaTyrArgArgProThrGlnIleGluLeu-137
 152-GluAsnAlaGlyGluLysAsnThrTrpTrp-161
 193-GlnAlaLeuArgGluGlyAlaGluArgIleGlyGlnArgHisPheAspIleProValProGluAspGlyThrProGluPheLysGlnValGlyArgCysPheAsn-227
 235-ThrLeuTyrAspAspLeuGluGlyGlnValAlaGluGlnThrHisAsnLeuGluLysGlnAsnArgAsnLeu-258
 263-ArgThrThrArgAspLeuHisGlnSerTyrThrProArgGlnAlaAlaGluGluPhe-281
 291-AlaGlnSerGlyAsn-295
 297-CysLeuGluAsnGlySerAspThrAspIle-306
 310-ThrAlaGluHisGlyLysLysProProLeuGluLysTyrHisAspGluThrPhe-327
 331-TyrGlnAsnGluLysLeuGly-337
 342-GlyPheSerAspGlyThrSerLeuThrGlyAspAspArgThrLeu-356
 370-GlyAlaLysGlnGluGluGluLysArgLeu-379
 383-LeuGlnGluArgAsnLeu-388
 393-LeuHisAspSerIle-397
 414-AlaPheAlaGluAsnLysArgGluGluAlaAlaGlu-425
 433-GlyValGlnGluCysTyrGluAspValArgGlu-443
 449-ArgThrLysIleSerAsnLysGluPheProGluAlaVal-461
 480-TrpGluAsnGlySer-484
 487-ProThrGlnAspGluGlnLeu-493

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502-SerLeuSerAsnIleArgLysHisAlaArg-511
 520-SerGluTyrGlyGlyArgPhe-526
 530-IleGlnAspAsnGlyGlnGlyPheAspThrGluLysIleGlyGluProThrGlySerHis-549
 555-MetGlnGluArgAlaLysArgIleArgAla-564
 566-LeuGluIleArgSerGlnAlaGlnGlnGlyThr-576
 581-ThrGlyAlaProLysGluSerLeuPro-589

Hydrophilic Regions - Hopp-Woods

48-ValIleGluGluAlaGlyAsn-54
 68-GluGlySerProArgAlaGlnIle-75
 78-GlnIleAlaGluPheGluLysSerLeuLysArgIleSerGln-91
 128-AlaTyrArgArgProThrGln-134
 152-GluAsnAlaGlyGluLys-157
 193-GlnAlaLeuArgGluGlyAlaGluArgIleGlyGlnArgHisPhe-207
 210-ProValProGluAspGlyThrProGluPheLysGlnValGly-223
 235-ThrLeuTyrAspAspLeuGluGlyGlnValAlaGluGlnThrHisAsnLeuGluLysGlnAsnArg-256
 264-ThrThrArgAspLeuHis-269
 276-GlnAlaAlaGluGluPhe-281
 300-AsnGlySerAspThrAspIle-306
 312-GluHisGlyLysLysProProLeuGluLysTyrHisAspGluThrPhe-327
 331-TyrGlnAsnGluLysLeuGly-337
 347-ThrSerLeuThrGlyAspAspArgThrLeu-356
 370-GlyAlaLysGlnGluGluGluLysArgLeu-379
 383-LeuGlnGluArgAsnLeu-388
 414-AlaPheAlaGluAsnLysArgGluGluAlaAlaGlu-425
 436-GluCysTyrGluAspValArgGlu-443
 450-ThrLysIleSerAsnLysGluPheProGluAlaVal-461
 488-ThrGlnAspGluGlnLeu-493
 502-SerLeuSerAsnIleArgLysHisAlaArg-511
 532-AspAsnGlyGlnGlyPheAspThrGluLysIleGlyGluProThrGly-547
 555-MetGlnGluArgAlaLysArgIleArgAla-564
 566-LeuGluIleArgSerGlnAlaGln-573
 582-GlyAlaProLysGluSerLeuPro-589
g562

AMPHI Regions - AMPHI

48-TrpSerLeuValSerAlaTrpMetValValIle-58
 84-LeuGluThrThrValMetSerAlaValArgThrLeu-95
 97-PheThrProTyrThrThrValAlaSerThrSer-107
 116-ThrPhePheAlaProLeuSerArgTrp-124
 133-AsnAlaProValHisSerMetThrLysSerThrProSerSerPheHis-148
 184-ValSerAsnLeuValArgTrpAlaLeu-192

Antigenic Index - Jameson-Wolf

9-PheAsnSerGlyLysThrLysPro-16
 32-ProLeuArgAlaArgArgSerLeuTrpArg-42
 72-AlaThrGlyGluArgGlnLeuVal-79
 105-SerThrSerSerProProGlyAlaGluMet-114
 139-MetThrLysSerThrProSerSerPheHisGlySerSerAla-152
 154-LeuArgValGluLysLysGlyIleLeuSerProLeuThr-166
 168-ArgLeuProProSerTrpAspThrSerAlaSerLysArgProCysThr-183

Hydrophilic Regions - Hopp-Woods

-810-

11-SerGlyLysThrLysPro-16
 33-LeuArgAlaArgArgArgSerLeuTrp-41
 72-AlaThrGlyGluArgGlnLeuVal-79
 110-ProGlyAlaGluMet-114
 140-ThrLysSerThrPro-144
 154-LeuArgValGluLysLysGlyIle-161
 176-SerAlaSerLysArgProCysThr-183
563g
AMPHI Regions - AMPHI
 24-ThrLysArgGluGlyLysSerCys-31
 115-AsnGlnTyrAlaGlnPhe-120
 159-ValAsnGlnIleAsnSerSerHisProSerGlnLeuAsnGlyTyrIleGlu-175
 292-AlaAlaAsnValGlnAspMetAsnAsnThrAla-302
 332-IleGlnAsnThrGlyLysLeuLeuSerAlaGly-342
 457-AspAsnAlaValGlnGly-462
 495-GlnMetAsnAsnIleGlyThr-501
 571-AlaGlnArgIleHisAsnAlaGly-578
 594-LeuHisAsnThrAsnGlu-599
 616-TyrGluAlaPheGlyArg-621
 642-SerAspHisLeuArgThrProAspGlyValAlaHisGluAsnTrp-656
 673-ThrAlaProAlaLysIle-678
 729-GlyLysLeuHisAsnTyrTrpArg-736
 756-GluGluIleThrArg-760
 771-SerHisSerLysAlaLeu-776
 809-ProAsnSerPheThrProLeuPro-816
 861-LeuHisLysArgLeuGlyAspGlyTyr-869
 877-GluGlnIleAlaGluLeuThrGlyHisArgArgLeuAspGlyTyrGlnAsn-893
 899-LysAlaLeuMetAsp-903
 1002-ThrLeuAspAsnIleGlyGly-1008
 1019-AlaThrGlnAspIleAsnAsnIleGlyGlyIleLeu-1030
 1051-LysSerSerGlnAsn-1055
 1106-GlnAlaGlyArgAspIle-1111
 1135-GlySerThrAsnGluValGlySerSer-1143
 1191-ValAspAspAlaSerLysHisThrGlyArg-1200
 1215-SerHisHisGluThr-1219
 1254-GlnAlaGlyAsnHisVal-1259
 1269-GlnSerGluThrTyrHisGln-1275
 1326-TyrGluGlnThrGly-1330
 1388-SerThrGlnSerSerLysGlnVal-1395
 1416-TyrGlnThrGlyLysGlyAlaGlnAsnLeuAlaAsnGlyThrThrAsn-1431
 1508-GluGlnSerAsnThrGluArgSerGln-1516
 1542-GlyGlyAsnValGlyLysGlyTyr-1549
 1692-SerAspIleGlnAsnTyrSerGln-1699
 1718-LeuGlyGlnGlyAlaLys-1723
 1761-IleAsnThrProLysAsnIle-1767
 1796-ThrAspThrAlaGluArgHisSerGlySerLeuLysAsn-1808
 1825-ValSerGlnAspPheSerLysAsnValGln-1834
 1893-IleLeuAsnMetLeuAlaSerGlyLeuAlaGluProThr-1905
 1925-GlyGlnHisPheLysAspLeuAlaGly-1933
 1968-ProAlaGlyAlaLeu-1972
 2006-SerAlaIleThrArgMetLeuGlyThrAla-2015
 2032-PheGlnThrAlaSerAspPheAlaSerSerPheSerTyrProIleAsn-2047

Antigenic Index - Jameson-Wolf

1-MetAsnLysThrLeu-5

9-IlePheAsnArgLysArgGlyAlaVal-17
22-GluThrThrLysArgGluGlyLysSerCysAlaAspSerGlySerGlySer-38
48-ProThrHisSerLys-52
78-IleIleThrAspLysAlaAlaProLysThrGlnGln-89
122-ValGlyAsnArgGlyAlaIleLeuAsnAsnSerArgSerAsnThrGlnThr-138
147-AsnProTrpLeuThrArgGlyGluAlaArgVal-157
162-IleAsnSerSerHisProSerGlnLeuAsnGly-172
174-IleGluValGlyGlyArgArgAlaGluVal-183
200-AsnAlaSerArgAlaThrLeu-206
208-ThrGlyGlnProGlnTyrGlnAlaGlyAspPheSerGlyPheLysIleArgGlnGlyAsnAla-228
234-GlyLeuAspAlaArgAspThrAspPhe-242
261-AlaGlyIleArgAsnGlnGlyGlnLeu-269
279-AspAlaAsnGlyArgLeuValAsn-286
296-GlnAspMetAsnAsnThrAlaGluHisLysValAsnIleArg-309
311-GlnAlaPheGluAsnSerGlyThrAlaVal-320
322-GlnGlnGlyThrGlnIleHis-328
330-GlnSerIleGlnAsnThrGlyLysLeu-338
340-SerAlaGlyThrGluAspLeuAlaVal-348
351-SerLeuAsnAsnGlnAsnGlyGluIleAlaThrAsn-362
366-IleIleHisAspGlyGlnGlnSer-373
379-AsnThrAsnGlyThrIleGlnSerGlyArgAspValAlaIle-392
395-LysSerLeuSerAsnAsnGlyThrLeuAlaAlaAspAsnLysLeuAspIleAlaLeu-413
415-AspAspPheTyrValGluArgLysIleValAlaGlyAsnGluLeu-429
431-LeuSerThrArgGlySerLeuLysAsnSerHisThr-442
444-GlnAlaGlyLysArgIleArgIleLysAlaAsnAsnLeuAspAsn-458
463-AsnIleGlnSerGlyGlyThrThrAspIleGlyThrGlnHisAsnLeuThrAsnArgGlyLeuIleAspGly
GlnGlnThrLysIleGln-492
513-AlaThrArgLeuAspAsnGlnAspGluAsnGlyThrGly-525
529-AlaAlaArgGluAsnLeu-534
540-GlnLeuAsnAsnArgGluAsnSerLeu-548
559-GlyAlaLeuAspThrAsnAspGlnAlaThrGlyLysAlaGlnArgIleHisAsnAlaGlyAla-579
583-AlaAlaGlyLysMetArgLeuGlyValGluLysLeuHisAsnThrAsnGluHisLeuLys-602
607-GluThrGlyArgGluArgIleValAsp-615
623-GluLeuLeuArgGluGlyThrGlnHis-631
638-TyrAsnAsnGluSerAspHisLeuArgThrProAspGlyValAlaHis-653
657-HisLysTyrAspTyrGluLysValThrGlnGluThrGlnVal-670
680-AlaGlySerAspLeuIleIleAspSerLysAlaValPheAsnSerAspSerArgIle-698
707-GlnThrGluLysAspGlyLeuHisAsnGluGlnThrPheGlyGluLysLysValPheSerGluAsnGlyLys
LeuHisAsn-733
735-TrpArgAlaArgArgLysGlyHisAspGluThrGlyHisArgGluGlnAsnTyrThrLeuProGluGluIle
ThrArgAspIleSerLeu-764
770-GluSerHisSerLysAlaLeuSerArgHisAlaProSerGlnGlyThrGluLeuProGlnSerAsnArgAsp
AsnIleArgThrAlaLysSerAsnGlyIle-803
825-ProAlaAsnLysGlyTyrLeuValGluThrAspProArgPheAlaAsn-840
854-LeuLysLeuAspProAsnAsnLeuHisLysArgLeuGlyAspGlyTyrTyrGluGlnArgLeuIleAsn-87
6
883-ThrGlyHisArgArgLeuAspGlyTyrGlnAsnAspGluGluGlnPheLysAlaLeuMetAspAsnGlyAla
ThrAlaAlaArgSerMetAsn-913
922-AlaGluGlnAlaAla-926
938-LysGluValLysLeuProAspGlyGlyThr-947
959-ValLysAsnGlyGlyIleAspGlyLysGly-968
982-GlySerLeuLysAsnSerGlyThrIleAlaGlyArgAsnAla-995
999-AsnThrAspThrLeuAspAsnIleGlyGly-1008
1010-IleHisAlaGlnLysSerAlaVal-1017
1040-AlaGlyAsnAsnIleAsnAsnGlnSerThrAlaLysSerSerGlnAsnAlaGlnGlySer-1059

1072-ThrGlyLysGluLysGlyVal-1078
 1083-AlaGlyLysAspIleAsnIle-1089
 1094-IleSerAsnGlnSerAspGlnGlyGlnThrArgLeuGlnAlaGlyArgAspIleAsnLeuAspThrValGlnThrGlyLysTyrGlnGluIleHisPheAspAlaAspAsnHisThrIleArgGlySerThrAsnGluValGlySerSerIleGlnThrLysGlyAspVal-1150
 1155-GlyAsnAsnLeuAsnAlaLysAlaAlaGluValGlySerAlaLysGlyThr-1171
 1175-TyrAlaLysAsnAspIleThrIle-1182
 1190-GlnValAspAspAlaSerLysHisThrGlyArgSerGlyGlyGlyAsnLys-1206
 1208-ValIleThrAspLysAlaGlnSerHisGlnGluThrAlaGlnSerSerThrPheGluGlyLysGln-1229
 1233-GlnAlaGlyAsnAspAlaAsn-1239
 1245-ValIleSerAspAsnGlyThrArgIleGlnAla-1255
 1262-GlyThrThrGlnThrGlnSerGlnSerGluThrTyrHisGlnThrGlnLysSerGlyLeu-1281
 1291-GlySerLysThrAsnThrGlnGluAsnGlnSerGlnSerAsnGluHisThrGlySerThrValGlySerLeuLysGlyAspThrThrIle-1320
 1324-LysHisTyrGluGlnThrGlySerAsnValSerSerProGluGlyAsnAsnLeu-1341
 1354-AsnGlnLeuAsnSerLysThrThrGlnThrTyrGluGlnLysGlyLeu-1369
 1379-ArgPheGlyThrThrSerAspCysArgSerThrGlnSerSerLysGlnValGlyGlnSerLysAsnAspArgValAsnAla-1405
 1415-AlaTyrGlnThrGlyLysGlyAlaGlnAsnLeuAlaAsnGlyThrThrAsnAlaLys-1433
 1441-TyrGlyGluGlnGlnAsnArgGlnThrThrGln-1451
 1450-SerGlnIleGlnAlaGlyGlyLysThr-1468
 1470-LeuTyrCysArgArgCysGlyGluGlnSerAsn-1480
 1487-GlyValSerGlyArgAlaGlyThr-1494
 1496-LeuIleAlaAspLysGlnIle-1502
 1506-SerAlaGluGlnSerAsnThrGluArgSerGlnAsnLysSerAlaGlyTrpAsn-1523
 1543-GlyAsnValGlyLysGlyTyrGlyTyrGlyAspSerValThrHisArgHisSerHisIleGlyAspLysGlySerGln-1568
 1572-GlnSerGlyGlyAspThrIleIle-1579
 1582-AlaGlnValArgGlyLysGlyValGlnValAsnAlaLysAsn-1595
 1600-SerValGlnAspArgGluThrTyrGlnSerLysGlnGlnAsnAlaGlyAla-1616
 1626-AlaSerGlyAspTyrSerGlnSerLysIleArgAlaAspHis-1639
 1641-SerValThrGluGlnSerGlyIleTyrAlaGlyGluAspGlyTyrGln-1656
 1660-GlyAsnHisThrGlyLeuLysGlyGlyIle-1669
 1673-SerGlnSerAlaLysAspLysGlyLysAsnArgPheSerThrGlyThrLeuAlaGlySerAspIleGlnAsnTyrSerGlnTyrGluGlyLysSerPheGly-1706
 1713-ValSerGlyLysThrLeuGlyGlnGlyAlaLysAsnLysProGlnAspLysHisLeu-1731
 1734-IleAlaAspLysAsnGlyAlaSerSer-1742
 1745-GlyTyrGlySerAspSerAspSerGlnSerSerIleThrLysSerGlyIleAsnThrProLysAsnIleGlnIleThrAspGluAlaAlaGln-1775
 1778-LeuThrGlyLysIleAlaAlaGlnThrLysAlaAspIleAspThrAsnValThrThrAspThrAlaGluArgHisSerGlySerLeuLysAsnIlePheAspLysAspArgValGlnSerGluLeuAspLeuGlnArgThrValSerGlnAspPheSerLysAsnValGlnGlnThrAsnThrGluIle-1840
 1842-GlnHisLeuAspLysLeuLysAlaAspLysGluAlaAlaGluThrAlaAla-1858
 1863-AlaAsnGlyAspMetGluThrAlaLysArgLysAlaHisGluAlaGlnAspAlaAlaAlaLysAlaAspAsnTrpGlnGln-1889
 1899-SerGlyLeuAlaGluProThrGlnSerGly-1908
 1915-ThrAlaSerProAspValSer-1921
 1927-HisPheLysAspLeuAlaGlyGlnAsnAlaAsnGlyLysLeuThrAlaSerGlnGluThr-1946
 1963-XxxGlyAsnAsnAlaPro-1968
 1973-GlyAlaGlyGlySerGluAlaAla-1980
 1988-LeuTyrGlyLysGlyAspGlyGlySerLeuAsnAlaGluGluLysGluThrVal-2005
 2017-GlyAlaAlaGluGlyAsnSerSerAlaAspAla-2027
 2034-ThrAlaSerAspPheAlaSerSerPheSerTyr-2044

10-PheAsnArgLysArgGlyAla-16
22-GluThrThrLysArgGluGlyLysSerCysAlaAspSerGlySer-36
78-IleIleThrAspLysAlaAlaProLysThrGlnGln-89
131-AsnSerArgSerAsnThr-136
153-GlyGluAlaArgVal-157
176-ValGlyGlyArgArgAlaGluVal-183
235-LeuAspAlaArgAspThrAspPhe-242
261-AlaGlyIleArgAsn-265
296-GlnAspMetAsnAsnThrAlaGluHisLysValAsnIle-308
311-GlnAlaPheGluAsnSerGly-317
342-GlyThrGluAspLeuAla-347
355-GlnAsnGlyGluIleAlaThr-361
385-GlnSerGlyArgAspValAlaIle-392
403-LeuAlaAlaAspAsnLysLeuAspIleAlaLeu-413
417-PheTyrValGluArgLysIleValAla-425
435-GlySerLeuLysAsn-439
444-GlnAlaGlyLysArgIleArgIleLysAlaAsnAsnLeu-456
468-GlyThrThrAspIleGlyThr-474
487-GlnGlnThrLysIleGln-492
514-ThrArgLeuAspAsnGlnAspGluAsnGlyThr-524
529-AlaAlaArgGluAsnLeu-534
540-GlnLeuAsnAsnArgGluAsnSer-547
561-LeuAspThrAsnAspGlnAlaThrGlyLysAlaGlnArgIleHis-575
583-AlaAlaGlyLysMetArgLeuGlyValGluLysLeuHisAsnThrAsnGluHisLeuLys-602
607-GluThrGlyArgGluArgIleValAsp-615
623-GluLeuLeuArgGluGlyThrGlnHis-631
640-AsnGluSerAspHisLeuArgThrProAspGlyValAla-652
659-TyrAspTyrGluLysValThrGln-666
684-LeuIleIleAspSerLysAla-690
694-SerAspSerArgIle-698
707-GlnThrGluLysAspGlyLeuHisAsn-715
717-GlnThrPheGlyGluLysLysValPheSerGluAsnGlyLys-730
736-ArgAlaArgArgLysGlyHisAspGluThrGlyHisArgGluGlnAsn-751
756-GluGluIleThrArgAspIleSer-763
771-SerHisSerLysAlaLeuSerArgHisAlaPro-781
783-GlnGlyThrGluLeuProGlnSerAsnArgAspAsnIleArgThrAlaLysSerAsnGly-802
830-TyrLeuValGluThrAspProArgPheAlaAsn-840
854-LeuLysLeuAspPro-858
860-AsnLeuHisLysArgLeuGly-866
883-ThrGlyHisArgArgLeuAspGlyTyrGlnAsnAspGluGluGlnPheLysAlaLeuMet-902
905-GlyAlaThrAlaAlaArg-910
922-AlaGluGlnAlaAla-926
938-LysGluValLysLeuProAspGlyGlyThr-947
959-ValLysAsnGlyGlyIleAspGlyLysGly-968
982-GlySerLeuLysAsn-986
1010-IleHisAlaGlnLysSerAlaVal-1017
1048-SerThrAlaLysSerSerGlnAsnAlaGlnGly-1058
1073-GlyLysGluLysGlyVal-1078
1083-AlaGlyLysAspIleAsn-1088
1096-AsnGlnSerAspGlnGlyGlnThrArgLeuGlnAlaGlyArgAspIleAsnLeu-1113
1125-HisPheAspAlaAspAsnHisThrIleArgGlySerThrAsnGluValGlySer-1142
1144-IleGlnThrLysGlyAspVal-1150
1158-LeuAsnAlaLysAlaAlaGluValGlySerAlaLysGly-1170
1176-AlaLysAsnAspIle-1180
1190-GlnValAspAspAlaSerLysHisThrGlyArgSerGlyGlyGly-1204

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1208-ValIleThrAspLysAlaGlnSerHisHisGluThrAlaGln-1221
 1223-SerThrPheGluGlyLysGln-1229
 1249-AsnGlyThrArgIleGlnAla-1255
 1267-GlnSerGlnSerGluThr-1272
 1276-ThrGlnLysSerGlyLeu-1281
 1292-SerLysThrAsnThrGlnGluAsnGlnSerGlnSerAsnGluHisThrGly-1308
 1314-LeuLysGlyAspThr-1318
 1324-LysHisTyrGluGlnThrGly-1330
 1334-SerSerProGluGly-1338
 1356-LeuAsnSerLysThrThrGln-1362
 1364-TyrGluGlnLysGly-1368
 1384-SerAspCysArgSerThrGlnSerSerLysGlnValGlyGlnSerLysAsnAspArgValAsn-1404
 1417-GlnThrGlyLysGlyAlaGln-1423
 1443-GluGlnGlnAsnArgGlnThrThr-1450
 1474-ArgCysGlyGluGlnSerAsn-1480
 1488-ValSerGlyArgAlaGly-1493
 1497-IleAlaAspLysGlnIle-1502
 1506-SerAlaGluGlnSerAsnThrGluArgSerGlnAsnLys-1518
 1560-SerHisIleGlyAspLysGlySer-1567
 1582-AlaGlnValArgGlyLysGlyVal-1589
 1600-SerValGlnAspArgGluThrTyrGlnSerLysGlnGlnAsn-1613
 1628-GlyAspTyrSerGlnSerLysIleArgAlaAspHis-1639
 1650-AlaGlyGluAspGlyTyrGln-1656
 1674-GlnSerAlaLysAspLysGlyLysAsnArgPheSer-1685
 1700-TyrGluGlyLysSer-1704
 1717-ThrLeuGlyGlnGlyAlaLysAsnLysProGlnAspLysHisLeu-1731
 1734-IleAlaAspLysAsnGlyAla-1740
 1748-SerAspSerAspSerGlnSerSerIleThr-1757
 1768-GlnIleThrAspGluAlaAlaGln-1775
 1786-ThrLysAlaAspIleAspThr-1792
 1794-ValThrThrAspThrAlaGluArgHisSerGlySerLeu-1806
 1808-AsnIlePheAspLysAspArgValGlnSerGluLeuAspLeuGlnArgThrValSer-1826
 1836-ThrAsnThrGluIle-1840
 1842-GlnHisLeuAspLysLeuLysAlaAspLysGluAlaAlaGluThrAlaAla-1858
 1865-GlyAspMetGluThrAlaLysArgLysAlaHisGluAlaGlnAspAlaAlaAlaLysAlaAspAsn-1886
 1901-LeuAlaGluProThrGln-1906
 1927-HisPheLysAspLeuAlaGly-1933
 1936-AlaAsnGlyLysLeuThrAlaSerGlnGluThr-1946
 1975-GlyGlySerGluAlaAla-1980
 1991-LysGlyAspGlyGlySerLeuAsnAlaGluGluLysGluThrVal-2005
 2017-GlyAlaAlaGluGlyAsnSerSerAla-2025
g565-2

AMPHI Regions - AMPHI

50-AlaThrCysThrArgAlaMetSerLysSer-59
 66-SerSerTrpAlaArg-70
 103-AspPheMetSerGlnLeuAspLeuThr-111
 139-CysSerAsnSerGlyGluThrIleSerSerCysProAlaMetAlaSerIleThrLysProAsn-159
 184-AlaAsnThrThrAsnAlaPheAsnThr-192

Antigenic Index - Jameson-Wolf

1-MetAspSerThrLeuSerLysThrCys-9
 23-PheAlaArgProArgProAlaAlaSerAsnThrSerLeu-35
 37-PheAlaSerProAsnAspThrGlySer-45
 55-AlaMetSerLysSerSerAlaLysTyrGly-64
 67-SerTrpAlaArgThrArgProThrValCysProProLeuProLysProThrIle-84

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86-ThrXxxSerAspLeu-90
 97-MetLeuCysArgSerSerAspPheMetSer-106
 109-AspLeuThrLysArgProThrSerAlaSerLeuProProLysArgLysGlyAlaIle-127
 129-IleAspSerArgThrAlaAla-135
 139-CysSerAsnSerGlyGluThrIleSer-147
 155-IleThrLysProAsnSerProProCysAlaArgTyr-166
 170-LeuArgLeuSerProThrGlu-176
 194-SerIleAlaAsnSerIleAsnThrCysArgGlnProPro-206

Hydrophilic Regions - Hopp-Woods

24-AlaArgProArgProAlaAla-30
 39-SerProAsnAspThrGlySer-45
 55-AlaMetSerLysSerSerAla-61
 69-AlaArgThrArgPro-73
 100-ArgSerSerAspPhe-104
 109-AspLeuThrLysArgProThrSer-116
 119-LeuProProLysArgLysGlyAlaIle-127
 129-IleAspSerArgThr-133
 141-AsnSerGlyGluThrIleSer-147
 156-ThrLysProAsnSer-160

g566**AMPHI Regions - AMPHI**

52-GlyPheValGlyAspPheHisAlaPhe-60

Antigenic Index - Jameson-Wolf

36-ProAsnCysGlyAlaAspGlyThrGlyGlyLysGlyHisAla-49
 61-AlaValGlyGlyGluGluGlyGlyVal-69
 77-AlaAspGlyGlyLysAlaAspGlyGlyArgIleAlaArg-89
 105-AlaAlaGluArgAlaGlyAspAspPheAla-114

Hydrophilic Regions - Hopp-Woods

39-GlyAlaAspGlyThrGlyGlyLysGlyHisAla-49
 63-GlyGlyGluGluGlyGlyVal-69
 76-AspGlyGlyLysAlaAspGlyGlyArgIleAlaArg-89
 105-AlaAlaGluArgAlaGlyAspAspPheAla-114

g567**AMPHI Regions - AMPHI**

54-GluLeuValGlnGluIleAlaArgGluVal-63
 68-AlaLeuLysAlaVal-72
 110-TyrAlaLeuGluGlyIleSerAspLeuIleAlaThrValArgLysIleArgGln-127
 136-ThrGlyIleValArg-140
 151-AlaGluValSerGluGlnLeuArgSerHisPheGlyAspLeuLeu-165
 170-IleProArgAsnIleArgLeuAla-177

Antigenic Index - Jameson-Wolf

1-MetArgArgAlaAlaAlaSerThrArgArgValCysSerProAlaPhe-17
 24-MetArgThrCysSerArgArgTyrAlaAlaLysArgAlaAspThr-39
 51-AlaGluIleGluLeu-55
 57-GlnGluIleAlaArgGluValArgLeuLysAsnAlaLeu-69
 71-AlaValAlaGluAspTyrAsp-77
 83-CysProProSerLeu-87
 123-ArgLysIleArgGlnAlaValAsnProAspLeuAspIle-135
 141-ThrMetTyrAspSerArgSerArgLeuValAlaGluValSerGluGlnLeuArgSerHisPheGlyAspLeu-164
 169-AlaIleProArgAsnIleArgLeuAlaGluAlaProSerHisGly-183

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191-AlaGlnAlaLysGlyAlaLys-197
 204-AspGluLeuAlaAlaArgValSerGlyLys-213

Hydrophilic Regions - Hopp-Woods

1-MetArgArgArgAlaAlaAlaSerThrArgArgValCys-13
 26-ThrCysSerArgArgArgTyrAlaAlaLysArgAlaAspThr-39
 51-AlaGluIleGluLeu-55
 57-GlnGluIleAlaArgGluValArgLeuLysAsnAlaLeu-69
 71-AlaValAlaGluAspTyrAsp-77
 123-ArgLysIleArgGln-127
 131-ProAspLeuAspIle-135
 142-MetTyrAspSerArgSerArgLeuValAlaGluValSerGluGlnLeuArg-158
 172-ArgAsnIleArgLeuAlaGlu-178
 191-AlaGlnAlaLysGlyAlaLys-197
 204-AspGluLeuAlaAla-208

g568-2**AMPHI Regions - AMPHI**

32-AsnIlePheArgArgIle-37
 49-LysAlaCysLysAsn-53
 71-GluLysAlaAsnThrValArgTyr-78
 82-SerLeuAlaGlnCysPheThr-88
 112-ArgProLeuProSerIleIleThrAla-120
 154-ProXxxAspLeuAsn-158
 177-LeuValGlyGlnPheLeuAsnArgLeuPhe-186
 200-GluGluPhePheAspValValVal-207
 227-AspPheAsnGlnValPheAlaAlaPheLeu-236
 241-HisArgHisAlaAspGlnIleAlaAspSerCysArgValGlnSerGln-256

Antigenic Index - Jameson-Wolf

12-LysAlaSerAlaSerSerIlePro-19
 21-ArgIleCysArgLeuLysArgSerArgLeuProAsnIlePhe-34
 39-PheSerCysArgArgArgThrCysPheCysLysAlaCysLysAsnSerProIleArgAsnGluThrSerSerSerGlyArgArgGlnPheSerValGluLysAlaAsnThr-75
 91-SerAsnAlaSerLysProArgLeu-98
 102-IleArgGlyArgLysArgPhePheAla-110
 141-PheArgGlySerAlaPheLysCysArgLeuAsnAlaAlaProXxxAspLeuAsnArg-159
 166-GlySerGlnAsnLeu-170
 213-ValAlaAspArgAspAlaSer-219
 237-GlyGlnHisGlyHisArgHisAlaAspGlnIleAlaAspSerCysArgValGlnSerGln-256

Hydrophilic Regions - Hopp-Woods

21-ArgIleCysArgLeuLysArgSerArgLeu-30
 41-CysArgArgArgThrCysPhe-47
 49-LysAlaCysLysAsnSerProIleArgAsnGluThrSerSerSerGlyArgArgGlnPheSerValGluLysAlaAsnThr-75
 93-AlaSerLysProArgLeu-98
 102-IleArgGlyArgLysArgPhePheAla-110
 144-SerAlaPheLysCysArgLeu-150
 152-AlaAlaProXxxAspLeuAsnArg-159
 213-ValAlaAspArgAspAlaSer-219
 239-HisGlyHisArgHisAlaAspGlnIleAlaAspSerCysArgVal-253

g569-2**AMPHI Regions - AMPHI**

29-AlaAlaPheCysGlyLeuIleAlaLeuThrAlaLeuTrpGluTyrAlaArgMetAlaGlyLeuCysLys-51
 86-PheTrpLeuAlaValMetPro-92

-817-

161-IleAlaArgAlaIleSerProGlyLysSerTrpGluGlyAlaIle-175
 203-ThrValLeuIleGlyLeu-208

210-LeuThrValValSerValCysGlyAspLeuLeuGluSerTrpLeuLys-225

Antigenic Index - Jameson-Wolf

50-CysLysThrGluThrAsnHis-56
 98-LysTrpArgLeuAsnGlyGlyTrp-105
 124-SerLeuArgProHisProAspAspAlaLeu-133
 154-LysAlaLeuGlyLysHisLysIleAlaArg-163

165-IleSerProGlyLysSerTrpGlu-172

227-AlaAlaGlyIleLysAspSerSerAsnLeuLeuProGlyHis-240
 242-GlyValPheAspArgThrAspSer-249

Hydrophilic Regions - Hopp-Woods

50-CysLysThrGluThr-54
 127-ProHisProAspAspAlaLeu-133
 155-AlaLeuGlyLysHisLysIleAlaArg-163

227-AlaAlaGlyIleLysAspSerSerAsn-235
 243-ValPheAspArgThrAspSer-249

g570

AMPHI Regions - AMPHI

6-ArgAlaPheAlaAlaAlaIleGlyLeu-15
 22-HisAlaAspThrPheGlnLysIleGlyPheIleAsn-33
 43-GlnAlaArgAsnIleGlnLysThrLeuAspGly-53
 60-AspGluLeuGlnLysLeuGln-66
 81-LeuLysAspAlaLysLys-86
 91-GluLysTrpArgGlyLeuValGluAlaPheArg-101
 122-LeuGlnGlnAsnAlaAsnArgValIleValLysIle-133

Antigenic Index - Jameson-Wolf

33-AsnThrGluArgIleTyrLeuGluSerLysGlnAlaArgAsnIleGlnLysThrLeuAspGlyGluPheSerAlaArgGlnAspGluLeuGlnLysLeuGlnArgGluGlyLeuAspLeuGluArgGlnLeuAlaGlyGlyLysLeuLysAspAlaLysLysAlaGlnAlaGluGluLysTrpArgGly-95
 99-AlaPheArgLysLysGlnAlaGlnPheGluGluAspTyrAsnLeuArgArgAsnGluGluPheAla-120
 123-GlnGlnAsnAlaAsnArgVal-129
 133-IleAlaLysGlnGluGlyTyrAspValIle-142
 150-AsnThrGlnTyrAspValThrAspSerValIleLysGluMetAsnAlaArg-166

Hydrophilic Regions - Hopp-Woods

37-IleTyrLeuGluSerLysGlnAlaArgAsnIleGlnLysThrLeuAspGlyGluPheSerAlaArgGlnAspGluLeuGlnLysLeuGlnArgGluGlyLeuAspLeuGluArgGlnLeuAla-77
 79-GlyLysLeuLysAspAlaLysLysAlaGlnAlaGluGluLysTrpArgGly-95
 99-AlaPheArgLysLysGlnAlaGlnPheGluGluAspTyrAsnLeuArgArgAsnGluGluPheAla-120
 133-IleAlaLysGlnGluGlyTyr-139
 154-AspValThrAspSerValIleLysGluMetAsnAlaArg-166

g571

AMPHI Regions - AMPHI

10-ValValThrValPheGlyGlyIleGlySerAlaVal-22
 58-AlaAlaValAlaAspPhePheAlaVal-66

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89-ValGluValPheLysGlu-94

Antigenic Index - Jameson-Wolf

30-LysGlnAlaGlnAlaAspGly-36
 40-PheArgThrGlyHisArgGluGluGlnLeuGlyGlyAspVal-53
 72-ArgAlaGluArgAlaAla-77
 91-ValPheLysGluGlyAspPhe-97
 105-ArgAsnAlaAspPheAlaAlaGluHisGlnArgGluGlyPheAla-119

Hydrophilic Regions - Hopp-Woods

30-LysGlnAlaGlnAlaAsp-35
 42-ThrGlyHisArgGluGluGlnLeuGly-50
 72-ArgAlaGluArgAlaAla-77
 91-ValPheLysGluGlyAspPhe-97
 105-ArgAsnAlaAspPheAlaAlaGluHisGlnArgGluGlyPheAla-119

g572**AMPHI Regions** - AMPHI

10-LeuProSerAlaLeuAla-15
 61-GlnValLeuProArgAspTyrThrAspArgLeuAsn-72
 94-SerThrPheAspSerIleThrPro-101
 154-IleHisSerMetValArg-159
 183-GlyLeuProGluArgIleAspSerGly-191
 200-LeuSerAlaLeuThr-204

Antigenic Index - Jameson-Wolf

18-GlnLysGlyLysThr-22
 26-AlaAsnLysGluThrLeu-31
 41-ThrAlaArgAlaAsnGly-46
 51-ProValAspSerGluHis-56
 63-LeuProArgAspTyrThrAspArgLeuAsnGluHisGlyIleAsp-77
 97-AspSerIleThrProGluGlnAlaValLysHisProAsnTrpArgMetGlyArgLysIleSerValAspSer-120

122-ThrMetAlaAsnLysGlyLeuGluLeu-130
 138-AsnCysProProAspLysLeuGluVal-146
 158-ValArgTyrArgAspGlySerVal-165
 170-GlyAsnProAspMetArgThr-176
 184-LeuProGluArgIleAspSerGlyValGlyLysLeuAsp-196
 205-PheGlnLysProAspPheGlyArg-212

224-AsnAlaGlyGlyAla-228

Hydrophilic Regions - Hopp-Woods

27-AsnLysGluThrLeu-31
 41-ThrAlaArgAlaAsnGly-46
 52-ValAspSerGluHis-56
 66-AspTyrThrAspArgLeuAsnGluHisGlyIle-76
 111-ArgMetGlyArgLysIleSerVal-118
 126-LysGlyLeuGluLeu-130
 140-ProProAspLysLeuGlu-145
 158-ValArgTyrArgAspGlySer-164
 170-GlyAsnProAspMetArgThr-176
 184-LeuProGluArgIleAspSerGlyValGlyLysLeuAsp-196
 206-GlnLysProAspPheGly-211

g574

AMPHI Regions - AMPHI

6-ProAsnSerLeuLysLys-11
 47-LeuLysGlnAlaLysSerIleProSerGlyPheTyrLysSerLeuAspAlaLeuValAspArgAsnSerGlyArgAlaAlaArgGluLeuAlaGluValValAsp-81
 94-GlyLysLeuTyrArgGln-99
 113-MetLeuAspSerProAspThr-119
 175-GluLysAlaValGlu-179
 218-AsnValGlyLysAlaLeuGluAlaAsnLysLysCys-229
 246-PheProAlaAlaValGluAlaTyrAlaAlaIleGlu-257
 266-MetValGlyGluLysLeuTyrGluAlaTyrAla-276
 281-ProGluGluGlyLeuAsnArgLeuThrGlyTyrMetGlnThrPheProGluLeuAspLeu-300
 332-AsnGlyValTyrArg-336
 357-ArgSerValIleGlyArgGlnLeuGlnArgSer-367

Antigenic Index - Jameson-Wolf

7-AsnSerLeuLysLysAlaAspMetAspAsn-16
 45-ThrValLeuLysGlnAlaLysSerIleProSerGlyPheTyrLysSerLeuAspAlaLeuValAspArgAsnSerGlyArgAlaAlaArgGluLeuAlaGluValValAspGlyArgProGlnSerTyrAsp-88
 96-LeuTyrArgGlnArgGlyGluAsnAspLysAlaIleAsnIleHisArgThrMetLeuAspSerProAspThrValGlyGluLysArgAlaArgVal-127
 135-TyrGlnSerAlaGlyLeuValAspArgAlaGlu-145
 151-LeuGlnAspGlyGluMetAlaArgGluAlaArgGln-162
 168-TyrGlnGlnAspArgAspTrpGluLysAlaValGlu-179
 185-SerHisAspGluGlnThrTyr-191
 210-SerAsnPheAspAlaAlaArg-216
 221-LysAlaLeuGluAlaAsnLysLysCysThrArg-231
 238-AspIleGluHisArgGlnGlyAsn-245
 277-AlaGlnGlyLysProGluGluGlyLeuAsnArgLeuThrGlyTyr-291
 309-LeuLeuLeuLysGlyGluLysGluAlaAla-318
 323-GluLeuValArgArgLysProAspLeuAsnGly-333
 341-LysLeuSerAspLeuAspProAlaTrpLysAlaAspAlaAspMetMetArg-357
 368-ValMetTyrArgCysArgAsnCysHisPheLys-378
 386-CysProAlaCysAsnLysTrpGlnThrPheThrProAsnLysIleGluVal-402

Hydrophilic Regions - Hopp-Woods

7-AsnSerLeuLysLysAlaAspMetAspAsn-16
 45-ThrValLeuLysGlnAlaLysSerIle-53
 62-AspAlaLeuValAspArgAsnSerGlyArgAlaAlaArgGluLeuAlaGluValValAspGlyArgProGlnSer-86
 96-LeuTyrArgGlnArgGlyGluAsnAspLysAlaIleAsn-108
 112-ThrMetLeuAspSerProAspThrValGlyGluLysArgAlaArgVal-127
 140-LeuValAspArgAlaGlu-145
 152-GlnAspGlyGluMetAlaArgGluAlaArgGln-162
 169-GlnGlnAspArgAspTrpGluLysAlaValGlu-179
 185-SerHisAspGluGlnThrTyr-191
 211-AsnPheAspAlaAlaArg-216
 221-LysAlaLeuGluAlaAsnLysLysCysThrArg-231
 238-AspIleGluHisArgGlnGlyAsn-245
 279-GlyLysProGluGluGlyLeuAsn-286
 309-LeuLeuLeuLysGlyGluLysGluAlaAla-318
 323-GluLeuValArgArgLysProAspLeu-331
 341-LysLeuSerAspLeuAspPro-347
 349-TrpLysAlaAspAlaAspMetMetArg-357
 368-ValMetTyrArgCysArgAsnCysHis-376
 398-AsnLysIleGluVal-402

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g575

AMPHI Regions - AMPHI

31-ProValArgGlnValArg-36
 93-TrpArgSerValAlaGluAlaGlyValSer-102
 104-ThrAlaGlyLeuGlySerGlyArgThrAlaGlyPheSerAlaPheAlaSerGlyAla-122
 124-ThrPheAlaSerGlyPheSerThrGly-132
 149-GlySerAspGlyMetAspAlaValSerAlaLeu-159

Antigenic Index - Jameson-Wolf

3-CysLeuArgArgGlnAlaAlaArgCysThrAsnArgArgThrAspArgGlnThrVal-21
 27-LeuArgGlnLysProValArgGlnValArgGlnArgValArgArg-41
 49-GlnGlnValArgLysArgCysTyrArgPheArgArgSerAlaCysArgTrpGlnLysArgArgLeuLeuGlyGlyAlaAspSerAlaAlaVal-79
 89-ThrGlyProGlyTrp-93
 100-GlyValSerAspThrAlaGlyLeuGlySerGlyArgThrAla-113
 129-PheSerThrGlyPheSerThr-135
 147-LeuAspGlySerAspGlyMetAsp-154

Hydrophilic Regions - Hopp-Woods

3-CysLeuArgArgGlnAlaAlaArgCysThrAsnArgArgThrAspArgGlnThrVal-21
 27-LeuArgGlnLysProValArgGlnValArgGlnArgValArgArg-41
 50-GlnValArgLysArgCysTyrArgPheArgArgSerAlaCysArgTrpGlnLysArgArgLeuLeuGly-72
 74-AlaAspSerAlaAlaVal-79
 148-AspGlySerAspGlyMetAsp-154

g576-1

AMPHI Regions - AMPHI

31-AlaSerGluProAlaAlaAla-37
 46-SerIleGlySerThr-50
 63-GlyArgSerLeuLysGlnMetLys-70
 82-ThrAspAlaMetGln-86
 102-GlnGluValMetMetLysPheLeuGlnGluGlnGlnAlaLysAlaValGluLysHis-120
 140-AlaLysAspGlyValLysThrThr-147
 200-GlnValIleProGlyTrpThrGluGlyValArgLeuLeuLysGluGly-215

Antigenic Index - Jameson-Wolf

20-AlaCysGlyLysLysGluAlaAlaPro-28
 30-SerAlaSerGluProAlaAla-36
 40-AlaGlnGlyAspThrSerSerIleGlySerThrMetGlnGln-53
 61-AspIleGlyArgSerLeuLysGlnMetLysGluGlnGlyAlaGluIleAspLeu-78
 89-TyrAspGlyLysGluIleLysMetThrGluGluGlnAlaGln-102
 109-LeuGlnGluGlnGlnAlaLysAlaValGluLysHisLysAlaAspAlaLysAlaAsnLysGluLysGlyGluAlaPheLeuLysGluAsnAlaAlaLysAspGlyValLysThrThrAlaSerGlyLeu-151
 154-LysIleThrLysGlnGlyGluGlyLysGlnProThrLysAspAspIleVal-170
 173-GluTyrGluGlyArgLeuIleAsp-180
 183-ValPheAspSerSerLysAlaAsnGlyGlyPro-193
 203-ProGlyTrpThrGlu-207
 209-ValArgLeuLeuLysGluGlyGlyGlu-217
 224-SerAsnLeuAlaTyrArgGluGlnGlyAlaGlyGluLysIleGlyPro-239
 253-GlyAlaProGluAsnAlaProAlaLysGlnProAspGlnValAspIleLysLysValAsn-272

Hydrophilic Regions - Hopp-Woods

21-CysGlyLysLysGluAlaAlaPro-28
 30-SerAlaSerGluProAlaAla-36
 40-AlaGlnGlyAspThrSerSer-46
 61-AspIleGlyArgSerLeuLysGlnMetLysGluGlnGlyAlaGluIleAspLeu-78

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89-TyrAspGlyLysGluIleLysMetThrGluGluGlnAlaGln-102
 112-GlnGlnAlaLysAlaValGluLysHisLysAlaAspAlaLysAlaAsnLysGluLysGlyGluAlaPheLeu
 LysGluAsnAlaLysAspGlyValLysThrThrAla-148
 155-IleThrLysGlnGlyGluGlyLysGlnProThrLysAspAspIleVal-170
 173-GluTyrGluGlyArgLeuIleAsp-180
 185-AspSerSerLysAlaAsnGly-191
 209-ValArgLeuLeuLysGluGlyGlyGlu-217
 227-AlaTyrArgGluGlnGlyAlaGlyGluLysIleGlyPro-239
 253-GlyAlaProGluAsnAlaProAlaLysGlnProAspGlnValAspIleLysLysValAsn-272
g577

AMPHI Regions - AMPHI

8-GlyLysIleValGlyAsnArgIleLeuArgMetProSerGluHis-22
 26-PheTyrProLysProCysLysSerPheLysLeuThr-37
 62-ThrValIleLysIleIle-67
 104-AlaPheValValGlyIle-109
 112-GlyMetPheAlaLeuPheGlyArg-119

Antigenic Index - Jameson-Wolf

1-MetGluArgSerGlyVal-6
 14-ArgIleLeuArgMetProSerGluHis-22
 28-ProLysProCysLysSerPheLysLeu-36
 43-ValArgSerCysProCys-48
 121-LeuSerLeuArgGlyGluAsnSerArgLeuArgAlaGluValLysLysSerAlaArgLeuSerGlyGlnLys
 LeuThrAla-147
 152-AsnAlaAlaGluSerAlaLysGlnPro-160

Hydrophilic Regions - Hopp-Woods

1-MetGluArgSerGlyVal-6
 14-ArgIleLeuArgMetProSerGluHis-22
 29-LysProCysLysSerPheLys-35
 121-LeuSerLeuArgGlyGluAsnSerArgLeuArgAlaGluValLysLysSerAlaArgLeuSerGly-142
 152-AsnAlaAlaGluSerAlaLysGlnPro-160

g578**AMPHI Regions - AMPHI**

10-PheAlaAspPhePheLysAspPheAlaProGlnPheGlyGlyPheGlnAsn-26
 34-AspPhePheAlaAlaPheLeuGlyGlyLeuGluGlyHisValGlyAsp-49
 58-PheHisGlyValValAlaPhe-64
 71-AsnThrAspAlaAlaArgPhe-77

Antigenic Index - Jameson-Wolf

13-PhePheLysAspPheAlaProGlnPheGlyGly-23
 43-LeuGluGlyHisValGlyAspAlaAla-51
 71-AsnThrAspAlaAlaArgPheAla-78
 88-HisAsnGlnAsnIleGlnThrGlyAsnAspPheArgLeuGluArgGlyGlyValGly-106

Hydrophilic Regions - Hopp-Woods

73-AspAlaAlaArgPheAla-78
 96-AsnAspPheArgLeuGluArgGlyGlyVal-105

g579**AMPHI Regions - AMPHI**

6-PheAspPheLeuHisLeuIleSerValSerGlyTrpGlyHisLeuAlaGlu-22
 49-ValAlaValMetArg-53
 66-IleSerPheLeuCysAsn-71
 115-LeuSerAsnPheAla-119
 129-ProPheLysValGlyAspPheIleArgValGlyGlyPheGluGlyTyrValArgGluIleLys-149

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206-LeuLysAlaAlaAlaGlu-211
 258-GlnValValGluAsnLeuArg-264

Antigenic Index - Jameson-Wolf

110-SerLeuLysAspGlnLeuSer-116
 128-ArgProPheLysVal-132
 136-IleArgValGlyGlyPheGluGlyTyrValArgGluIleLysMet-150
 154-SerLeuArgThrThrAspAsnGluGluValValLeu-165
 175-IleValAsnArgSerSerLeuProLeu-183
 198-LeuLysValAlaLysGluAlaValLeu-206
 216-ValGlnAsnGluGluArgGlnPro-223
 231-GlyAspAsnAlaIle-235
 244-AsnGluAlaAspArgTrpThrLeu-251
 253-CysAspLeuAsnGluGlnValValGluAsnLeuArgLysValAsn-267
 271-ProPheProGlnArgAspIleHis-278

Hydrophilic Regions - Hopp-Woods

110-SerLeuLysAspGlnLeu-115
 144-TyrValArgGluIleLysMet-150
 155-LeuArgThrThrAspAsnGluGluValVal-164
 198-LeuLysValAlaLysGluAlaValLeu-206
 216-ValGlnAsnGluGluArgGlnPro-223
 244-AsnGluAlaAspArgTrp-249
 254-AspLeuAsnGluGlnValValGluAsnLeuArgLysValAsn-267
 273-ProGlnArgAspIleHis-278

g580**AMPHI Regions** - AMPHI

47-ProValSerAlaSerLys-52
 54-SerLeuValLysProLeuSerGlnProLeuAla-64

Antigenic Index - Jameson-Wolf

1-MetAspSerProLysValGlyCysGly-9
 48-ValSerAlaSerLys-52
 66-AlaArgProGluAlaAlaHis-72
 81-ArgProAspAlaLeuAlaAspAsnSerValSerProThrHisAlaThrSerGlyGluVal-100

Hydrophilic Regions - Hopp-Woods

1-MetAspSerProLysVal-6
 66-AlaArgProGluAlaAlaHis-72
 81-ArgProAspAlaLeuAla-86
 96-ThrSerGlyGluVal-100

g581**AMPHI Regions** - AMPHI

43-SerHisPheIleSerLeu-48
 56-ArgGluCysPheValGlyPhe-62
 76-AlaThrAlaPheGlyArgIleAsnGln-84
 90-GlnIleHisGlyPheLeuThrThrPheAlaGlyArgValAlaAsnProThrHisCysGlnSerGlnThr-112

Antigenic Index - Jameson-Wolf

8-GlyGlnThrGlyIleGluGlnAsnThrPheCysArgArgGlyPheThrArgIleAspMetGlyGlyAsnThrAspVal-33
 35-ValGlnAlaAspArgGlyLeuThrSer-43
 49-SerLysLeuGluThrGluValArgGluCysPhe-59
 79-PheGlyArgIleAsnGln-84
 98-PheAlaGlyArgValAlaAsnProThrHisCysGlnSerGlnThrAla-113

Hydrophilic Regions - Hopp-Woods

35-ValGlnAlaAspArgGlyLeu-41
 49-SerLysLeuGluThrGluValArgGlu-57

g582**AMPHI Regions - AMPHI**

27-ThrAspAsnValThrArgLeuAla-34
 65-ValArgSerSerLeu-69
 91-GlyGluThrAlaAspIleTyrThrProLeuSer-101
 139-SerSerProThrArg-143
 169-IleAlaGluAsnLeuPhe-174
 246-SerArgSerTrpAsnArgIleTyrAlaMet-255
 263-LeuThrValIleProArgValTrpValArgAlaPheAspGlnSer-277
 286-IleAlaAspTyrMetGlyTyr-292
 334-LeuLysGlyValValArgGlyPheHisGlyTyrGlyGlu-346

Antigenic Index - Jameson-Wolf

26-LeuThrAspAsnValThr-31
 34-AlaCysTyrAspArg-38
 44-LeuProSerSerAlaGlyGlnGluGlyGlnGluSerLysAla-57
 63-GluThrValArgSerSerLeuAspLysGlyGluAla-74
 77-ValValGluLysGlyGlyAspAlaLeuProAlaAspSerAlaGlyGluThrAlaAsp-95
 105-AspLeuAspLysAsnAspLeuArgGly-113
 115-LeuGlyValArgGluHisAsnProMetTyr-124
 130-TyrAsnAsnSerProAsnTyrAlaProSerSerProThrArgGlyThrThrValGlnGluLysPheGlyGln
 GlnLysArgAlaGluThrLysLeu-161
 165-PheLysSerLysIleAla-170
 173-LeuPheLysThrArgAla-178
 183-GlyTyrThrGlnArgSerAspTrpGlnIleTyrAsnGlnGlyArgLysSerAlaProPheArgAsnThrAsp
 TyrLysPro-209
 216-ProValLysAlaAspLeuProPheGlyGlyArgLeuArgMet-229
 237-GlnSerAsnGlyGlnSerArgProGluSerArgSerTrpAsn-250
 273-AlaPheAspGlnSerGlyAspLysAsnAspAsnProAspIleAlaAsp-288
 291-GlyTyrGlyAspValLysLeuGlnTyrArgLeuAsnAspArgGlnAsnVal-307
 312-ArgTyrAsnProLysThrGlyTyr-319
 330-IleLysGlyLysLeuLysGlyValVal-338
 342-HisGlyTyrGlyGluSerLeuIleAspTyrAsnHisLysGlnAsnGly-357
 365-AsnAspTrpAspGlyIle-370

Hydrophilic Regions - Hopp-Woods

48-AlaGlyGlnGluGlyGlnGluSerLysAla-57
 63-GluThrValArgSerSerLeuAspLysGlyGluAla-74
 79-GluLysGlyGlyAspAlaLeuPro-86
 88-AspSerAlaGlyGluThrAlaAsp-95
 105-AspLeuAspLysAsnAspLeuArgGly-113
 115-LeuGlyValArgGluHisAsn-121
 140-SerProThrArgGlyThrThrValGlnGluLysPheGlyGlnGlnLysArgAlaGluThrLysLeu-161
 165-PheLysSerLysIleAla-170
 173-LeuPheLysThrArgAla-178
 195-GlnGlyArgLysSerAlaProPheArgAsnThrAspTyrLysPro-209
 225-GlyArgLeuArgMet-229
 239-AsnGlyGlnSerArgProGluSerArgSerTrp-249
 274-PheAspGlnSerGlyAspLysAsnAspAsnProAspIleAlaAsp-288
 293-GlyAspValLysLeu-297
 299-TyrArgLeuAsnAspArgGlnAsn-306

332-GlyLysLeuLysGlyValVal-338

352-AsnHisLysGlnAsn-356

g583

AMPHI Regions - AMPHI

11-HisLeuAlaPheCysAlaPheCysGlyIle-20

28-ArgLeuHisAsnArgMetTyrAsnAlaAlaAlaAlaArg-40

58-ValThrAspAlaGln-62

66-SerLysAsnGlyAspLysGlnIle-73

75-AspThrHisProGlnPro-80

117-GlyTyrAlaGlyTyrCysAspGln-124

141-AsnGlyGlyAsnHisThrAsp-147

162-GlyTyrGlyGlnCysGlnAsnGlnGlyAla-171

Antigenic Index - Jameson-Wolf

24-ThrAlaGlyAsnArgLeuHisAsnArgMetTyr-34

41-GlyIleGlyArgGlyAsnGlySerGlnGlnGlnPheGlyLysSerGluThrValThrAspAlaGlnArgPheSerSerLysAsnGlyAspLysGlnIleSerAspThrHisProGlnProCysPheGluGlnThrAlaArgAsnHisAsnCysAspGlyAsnGlnProAsnGlnArgIleGlyGluArgThrGlnArgIleAlaHisArgArgAlaArgPhe-114

117-GlyTyrAlaGlyTyrCysAspGlnProAspGlyAsnAsnArgGlnArgAlaGlnArgHisAsnLeuAlaAspAsnGlyGlyAsnHisThrAspLysHisSerGlnGlnArgProSerLeuArgLeuAspProValGlyTyrGlyGlnCysGlnAsnGlnGlyAlaGlnTyrCysGlyAsnGlyGluGlyTyrArgPhe-182

190-AspLeuArgLysLysAspArgProGluLysSerGluLys-202

Hydrophilic Regions - Hopp-Woods

27-AsnArgLeuHisAsn-31

41-GlyIleGlyArgGlyAsnGlySer-48

51-GlnPheGlyLysSerGluThrValThrAspAlaGlnArgPheSerSerLysAsnGlyAspLysGlnIleSerAspThrHisPro-78

84-GlnThrAlaArgAsnHisAsnCysAspGlyAsnGlnProAsnGlnArgIleGlyGluArgThrGlnArgIleAlaHisArgArgAlaArgPhe-114

123-AspGlnProAspGlyAsnAsnArgGlnArgAlaGlnArgHisAsnLeuAlaAspAsnGlyGlyAsnHisThrAspLysHisSerGlnGlnArgProSerLeuArgLeuAspPro-160

178-GluGlyTyrArgPhe-182

190-AspLeuArgLysLysAspArgProGluLysSerGluLys-202

g584

AMPHI Regions - AMPHI

28-GluPheSerGluSerAlaGly-34

60-AlaGluPheValLysLysPheAsnAsnPheThrArgLys-72

116-PheAspAlaLeuAsnArgPheIleAlaAspVal-126

148-IleAspGlnValSerLysAsp-154

166-LeuAlaGlyValLeuGly-171

Antigenic Index - Jameson-Wolf

37-ValAlaGlnAspThrMetSer-43

50-AlaGluGlyArgAspLysAsnAlaVal-58

61-GluPheValLysLysPheAsnAsnPheThrArgLysSerLysAsnGlySerPheLysThrGluLeuValSerArgSerAlaMetProArgTyrGlnTyrThrAsnGlyArgArgIleGlnThrGlyTrpGluGluArgAlaGluPheLysAlaGluGlyArgAspPheAspAla-118

126-ValGlnThrAspAlaSerLeuGluAspThrAspPheSerValSerArgGluArgArgAsnGluValIleAspGlnValSerLysAspAlaValLeu-157

159-PheLysAlaArgAlaGluLysLeuAla-167

189-IleAlaGlyAspGlyAlaValArgAlaLysMetLeuArg-201

210-AsnMetLysGlyThrAspSerAlaAlaProGlyValGluGluIleSer-225

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Hydrophilic Regions - Hopp-Woods

50-AlaGluGlyArgAspLysAsnAlaVal-58
 67-AsnAsnPheThrArgLysSerLysAsnGlySerPheLysThrGluLeuValSer-84
 95-AsnGlyArgArgIleGlnThrGlyTrpGluGluArgAlaGluPheLysAlaGluGlyArgAspPheAspAla-118
 130-AlaSerLeuGluAspThrAspPheSerValSerArgGluArgAsnGluValIleAspGlnValSerLysAspAlaValLeu-157
 159-PheLysAlaArgAlaGluLysLeuAla-167
 193-GlyAlaValArgAlaLysMetLeuArg-201
 210-AsnMetLysGlyThrAspSerAlaAlaProGlyValGluGluIleSer-225

g585**AMPHI Regions - AMPHI**

6-ArgIlePheAlaThrPheCysAlaValIleValCys-17
 46-ThrThrLeuMetGlySerIleIleSer-54
 65-ArgGluIleLeuThrGluTrpLys-72
 93-AsnArgTyrIleAsp-97
 136-AspAsnHisGlnAlaGlnArg-142
 153-ProLeuAlaProIleTrp-158
 178-LeuAlaGlyAsnIleAlaLysProIleArgIleLeuGlyAsnGlyMetAspArgValAlaGluArgGlu-200

Antigenic Index - Jameson-Wolf

36-AsnGlnPheAsnGlnArgArgThrIleGlu-45
 56-PheLysThrArgGlyAspAsnGlyAlaArgGluIleLeuThrGluTrpLysAsnSerProValSer-77
 84-GlnGlyAspGluLysLysAspIleLeu-92
 99-TyrThrIleGluArgAlaArgLeu-106
 119-IleGluTyrAspArgPheGlyGlu-126
 134-GlyTrpAspAsnHisGlnAlaGlnArgLeuProSerPro-146
 189-LeuGlyAsnGlyMetAspArgValAlaGluArgGluLeuGluAspArgValCysGlnGlnValArgAspArgAspGluLeuAlaAsp-218
 225-ThrMetValGluLysLeuGlu-231

Hydrophilic Regions - Hopp-Woods

37-GlnPheAsnGlnArgArgThrIleGlu-45
 56-PheLysThrArgGlyAspAsnGlyAlaArgGluIleLeuThr-69
 84-GlnGlyAspGluLysLysAspIleLeu-92
 100-ThrIleGluArgAlaArgLeu-106
 119-IleGluTyrAspArgPheGlyGlu-126
 139-GlnAlaGlnArgLeu-143
 192-GlyMetAspArgValAlaGluArgGluLeuGluAspArgValCysGlnGlnValArgAspArgAspGluLeuAlaAsp-218
 225-ThrMetValGluLysLeuGlu-231

g586**AMPHI Regions - AMPHI**

12-AspAsnPheLysTyrPheTrpLysThr-20
 30-IleLeuAlaAlaLeuGly-35
 56-ValLeuAlaAsnIleValGluLysAlaGlnAsnLysAlaPro-69
 80-LeuGlnGlnSerTyrProHisSerIleSer-89
 177-SerGlnGluAlaLeuLysAsnTyrGlyGlnAlaLeuGluLysMetProGlnAspSerValGlyArg-198

Antigenic Index - Jameson-Wolf

4-HisLeuGluGluGlnGlnGluLeuAspAsn-13
 43-GlnAsnArgAlaAlaSerGlnAsnGlnGluAla-53
 60-IleValGluLysAlaGlnAsnLysAlaProGlnSerGluIleAsnAlaGluLeuSerLysLeuGlnGln-82
 100-ThrGluPheAspAlaGlnArgTyrAspValAlaGluGly-112

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118-LeuSerAsnGlnLysAspSerLeu-125
 140-GlnGlnLysLysTyrAspAla-146
 153-ThrProValGluAlaAspPhe-159
 164-MetGluThrLysGlyAspVal-170
 172-AlaAlaGlnGluLysSerGlnGluAlaLeuLysAsnTyrGlyGlnAlaLeuGluLysMetProGlnAspSer
 ValGlyArgGluLeuLeu-201
 204-LysLeuAspSerLeuLys-209

Hydrophilic Regions - Hopp-Woods

4-HisLeuGluGluGlnGlnGluLeuAspAsn-13
 45-ArgAlaAlaSerGlnAsnGlnGluAla-53
 60-IleValGluLysAlaGlnAsnLysAlaProGlnSerGluIleAsnAlaGluLeuSerLysLeu-80
 100-ThrGluPheAspAlaGlnArgTyrAspValAlaGluGly-112
 120-AsnGlnLysAspSerLeu-125
 140-GlnGlnLysLysTyrAspAla-146
 153-ThrProValGluAlaAspPhe-159
 164-MetGluThrLysGlyAspVal-170
 172-AlaAlaGlnGluLysSerGlnGluAlaLeuLys-182
 187-AlaLeuGluLysMetProGlnAspSerValGlyArgGluLeuLeu-201
 204-LysLeuAspSerLeuLys-209

g587**AMPHI Regions - AMPHI**

6-LeuProAlaLeuProAlaIleLeuProLeuSerAla-17
 122-LysArgMetSerAspIleSerAlaGlyIleSerHis-133

Antigenic Index - Jameson-Wolf

27-AspIleMetThrAspLysGlyLysTrpLysLeuGluThr-39
 45-AsnSerGluAsnSerArgAla-51
 71-ThrGluIleGlnGluAsnGlySerAsnThr-80
 95-GlyAsnThrAspIleTyrGlySerGlySer-104
 108-HisGluGluArgLysLeuAspGlyAsnGlyLysThrArgAsnLysArgMetSerAspIle-127
 135-PheLeuLysAspGlyLysAsnProAla-143
 151-ThrValTyrGluLysSerArgAsnLysAlaSerLeuIleLysLysArgGlyLeuCys-169

Hydrophilic Regions - Hopp-Woods

27-AspIleMetThrAspLysGlyLysTrpLysLeu-37
 47-GluAsnSerArgAla-51
 72-GluIleGlnGluAsnGlySerAsn-79
 108-HisGluGluArgLysLeuAspGlyAsnGlyLysThrArgAsnLysArgMetSerAspIle-127
 135-PheLeuLysAspGlyLysAsn-141
 151-ThrValTyrGluLysSerArgAsnLysAlaSerLeuIleLysLysArgGlyLeu-168

g588**AMPHI Regions - AMPHI**

55-ArgGlyTyrThrGlySer-60

Antigenic Index - Jameson-Wolf

24-SerProTyrGlnGluThrGlyCysThrTyrGluGlyGlyIleGlyLysAspGlyLeuProSerGlyLysGlyIle
 TrpArgCysArgAspGlyArgGlyTyrThrGlySerPheLysAsnGlyLysPheAspGlyGlnGly-70
 85-PheAsnSerAspSerThrLysPheArgAsn-94
 105-LeuAlaHisGlyArgPheAlaAlaSerGlnAsnGlyGluThr-118
 124-MetArgThrArgHisAsp-129

Hydrophilic Regions - Hopp-Woods

36-GlyIleGlyLysAspGlyLeuProSer-44
 49-TrpArgCysArgAspGlyArgGlyTyr-57

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61-PheLysAsnGlyLysPheAspGly-68
 85-PheAsnSerAspSerThrLysPheArgAsn-94
 124-MetArgThrArgHisAsp-129
g589
AMPHI Regions - AMPHI
 18-AlaSerArgIleGluLysValLeu-25
 54-ValAlaAspIleAlaLysIleIleGluLys-63
 103-MetValGlyMetMet-107
 127-ValLeuAlaSerIleValGlnLeuTrpLeuAla-137
 155-MetAspValLeuValThrIle-161
 198-PheValSerLeuGlyLysPheLeuGluHisArg-208
 230-ValGlnArgAsnGlyGlu-235
 245-GlnIleGlyAspLeuIleArg-251
 315-LeuGlyAspMetMetAsnAlaLeuSerGluAlaGln-326
 330-AlaProIleAlaArgValAlaAspLys-338
 396-MetGlyLysAlaVal-400
 471-IleValSerAlaAlaGln-476
 482-IleProAlaAlaGln-486
 502-GlyValGlyLeuValLys-507
 539-LysProIleGlyAlaPheAlaLeuSerAspAlaLeuLys-551
 553-AspThrAlaGluAlaIleGlyArgLeu-561
 591-AlaPheGlyAsnMetSerProCysAspLysAlaAlaGluValGlnLysLeuLysAlaAla-610
 617-ValGlyAspGlyIleAsnAspAlaPro-625
 640-AlaAspValAlaGluHisThr-646
 653-GlnHisSerValAsnGlnLeu-659
 680-AlaPhePheTyrAsnIleLeu-686

Antigenic Index - Jameson-Wolf

1-MetGlnGlnLysIleArgPhe-7
 17-CysAlaSerArgIleGluLysValLeuAsnLysLysAspPheValGluSer-33
 39-AlaSerGluGluAlaGlnValThrPheAspGlySerLysThrSerVal-54
 59-LysIleIleGluLysThrGlyTyrGlyAlaLysGluLysThrGluAspThrLeuProGlnProGluAlaGluHis-83
 114-ThrArgHisAspTrp-118
 148-IleLysGlyGlyLeu-152
 205-LeuGluHisArgThrLysLysSerSerLeuAsn-215
 228-ValAsnValGlnArgAsnGlyGluTrpLysGlnLeuProIleAspGln-243
 248-AspLeuIleArgThrAsnHisGlyGluArgIleAlaAla-260
 262-GlyIleIleGluSerGlySerGlyTrpAlaAspGluSerHisLeuThrGlyGluSerAsnProGluGluLysLysAlaGlyGly-289
 298-ThrGluGlySerVal-302
 323-SerGluAlaGlnGlySerLysAlaProIle-332
 334-ArgValAlaAspLysAlaAla-340
 361-IleLysGlyAspTrp-365
 396-MetGlyLysAlaValLys-401
 409-AlaAlaAlaMetGluGluAlaAlaHis-417
 422-ValLeuAspLysThrGlyThrLeuThrGluGlyArgProGlnVal-436
 443-ProAspSerGlyPheAspGluAspAlaLeu-452
 459-ValGluGlnAsnAla-463
 498-AlaGluValGluGly-502
 507-LysSerGlyLysAlaGluPheAla-514
 520-LysPheSerAspGlyVal-525
 535-SerValAsnGlyLysProIle-541
 548-AspAlaLeuLysAlaAspThrAlaGluAlaIleGlyArgLeuLysLysHisAsnIle-566
 572-SerGlyAspAsnGlnSerThrVal-579

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596-SerProCysAspLysAlaAlaGluValGlnLysLeuLysAlaAlaGly-611
 617-ValGlyAspGlyIleAsnAspAla-624
 636-MetLysGlyGlyAlaAspValAlaGlu-644

Hydrophilic Regions - Hopp-Woods

1-MetGlnGlnLysIleArgPhe-7
 19-SerArgIleGluLysValLeuAsnLysLysAspPheValGlu-32
 39-AlaSerGluGluAlaGlnVal-45
 48-AspGlySerLysThrSerVal-54
 64-ThrGlyTyrGlyAlaLysGluLysThrGluAspThrLeuProGlnProGluAlaGluHis-83
 205-LeuGluHisArgThrLysLysSerSerLeu-214
 229-AsnValGlnArgAsnGlyGluTrpLys-237
 253-AsnHisGlyGluArgIleAlaAla-260
 262-GlyIleIleGluSer-266
 270-TrpAlaAspGluSerHisLeuThrGlyGluSerAsnProGluGluLysLysAlaGlyGly-289
 323-SerGluAlaGlnGlySerLysAlaProIle-332
 334-ArgValAlaAspLysAlaAla-340
 409-AlaAlaAlaMetGluGluAlaAlaHis-417
 422-ValLeuAspLysThrGlyThrLeuThrGluGlyArgProGln-435
 445-SerGlyPheAspGluAspAlaLeu-452
 459-ValGluGlnAsnAla-463
 498-AlaGluValGluGly-502
 507-LysSerGlyLysAlaGluPheAla-514
 548-AspAlaLeuLysAlaAspThrAlaGluAlaIleGlyArgLeuLysLysHisAsnIle-566
 573-GlyAspAsnGlnSer-577
 596-SerProCysAspLysAlaAlaGluValGlnLysLeuLysAlaAlaGly-611
 638-GlyGlyAlaAspValAlaGlu-644

g590**AMPHI Regions - AMPHI**

90-ValThrLeuValAsnHisIleThrHis-98
 100-ProPheAlaGlyGlyPhe-105
 123-LysValLeuGluArgPhePhe-129
 132-GlnValProValSerLeu-137
 177-TyrGlnLysGlyPheLysSerTyrArgAsnSer-187
 213-GluThrSerAspGlyIleAsnProLeu-221
 248-AsnGluLeuValAsnLeuVal-254
 331-LysArgLysPheAla-335
 420-LysMetLeuGluAsp-424
 450-AspIleAsnGluThrLeuArgLeuMet-458
 460-AspSerThrValGln-464

Antigenic Index - Jameson-Wolf

1-MetLysLysProLeu-5
 26-LysAlaGluGluSerLeuThrGlnGlnGlnLysIleLeuGlnLysThrGly-42
 48-SerHisGlnTyrAspArgGlyTrpPheThrSerThrGluThrThrValIleArgLeuLysProGluLeu-70
 75-GlnLysTyrLeuProAspAsnLeuLys-83
 111-IleGluThrGluPheLysTyrAlaProGluThrGluLysValLeuGlu-126
 128-PheGlyLysGlnVal-133
 144-AsnGlySerGlyLysMetGluVal-151
 157-AspTyrGluGluLeuSerGly-163
 179-LysGlyPheLysSerTyrArgAsnSerTyrAspAlaProLeu-192
 196-LysLeuAlaAspLysGlyAspAlaAlaPheGlu-206
 208-AlaHisPheAspSerGluThrSerAspGlyIleAsn-219
 233-PheSerLeuGluTrpLysGluGlyValAspTyr-243
 264-AsnProAsnGlySerIleAlaProSerLysIleGluValGly-277

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281-PheSerThrLysThrGlyGluSerGlyAla-290
 292-IleAspSerGluGlyArgPheArgPhe-300
 304-ValTyrGlyAspGluLysTyrGlyPro-312
 329-ValLeuLysArgLysPheAla-335
 338-SerAlaLysLysMetThrGluGluGlnIleArgAsnAspLeu-351
 355-ValLysGlyAspAlaSerGly-361
 378-LeuProGlnGlyLysIleAspValGlyGly-387
 393-GlyMetLysLysGluAspLeuAsnGln-401
 406-LeuLysLysThrGluAlaAsnIle-413
 437-AsnAlaGluAspGluAlaGluAlaArgAlaSerIle-448
 450-AspIleAsnGluThrLeu-455
 466-MetAlaArgGluLysTyrLeu-472
 485-LeuLysAsnAlaLeuLysLeuAsnGlyLysThrLeuGlnAsnGluProAspProAspPheAspGluGly
 AspMetValSerGlyGlnProHis-516

Hydrophilic Regions - Hopp-Woods

1-MetLysLysProLeu-5
 26-LysAlaGluGluSerLeuThrGln-33
 62-ThrValIleArgLeuLysProGluLeu-70
 77-TyrLeuProAspAsnLeu-82
 111-IleGluThrGluPheLysTyrAlaProGluThrGluLysValLeuGlu-126
 147-GlyLysMetGluVal-151
 157-AspTyrGluGluLeuSerGly-163
 180-GlyPheLysSerTyrArgAsnSerTyr-188
 196-LysLeuAlaAspLysGlyAspAlaAlaPheGlu-206
 208-AlaHisPheAspSerGluThrSerAspGly-217
 233-PheSerLeuGluTrpLysGluGlyValAspTyr-243
 272-SerLysIleGluValGly-277
 292-IleAspSerGluGlyArgPheArgPhe-300
 304-ValTyrGlyAspGluLysTyrGlyPro-312
 329-ValLeuLysArgLysPheAla-335
 338-SerAlaLysLysMetThrGluGluGlnIleArgAsnAspLeu-351
 355-ValLysGlyAspAla-359
 381-GlyLysIleAspValGlyGly-387
 393-GlyMetLysLysGluAspLeuAsn-400
 406-LeuLysLysThrGluAlaAsnIle-413
 437-AsnAlaGluAspGluAlaGluAlaArgAlaSerIle-448
 450-AspIleAsnGluThrLeu-455
 466-MetAlaArgGluLysTyrLeu-472
 496-ThrLeuGlnAsnGluProAspProAspPheAspGluGlyAspMetValSer-512

g591**AMPHI Regions - AMPHI**

6-AlaPheIlePheAla-10
 17-LeuHisGluPheGlyHisTyrIleValAla-26
 61-LeuGlyGlyTyrValLysMetValAsp-69
 143-GlyAspLysIleGlnSerValAsnGlyValSerValGln-155
 181-SerGlyAlaGlnThrValArgThrIleAspAlaAlaGlyThrProGluAlaGlyLysIleAlaLys-202
 218-AlaGlyGlyValGluLys-223
 234-ProGlyAspArgLeu-238
 245-ProIleAlaSerTrpGlnGluTrpAlaAsnLeuThrArg-257
 304-AlaTrpAspAlaGlnIleArg-310
 313-TyrArgProSerValValArgAlaPheGly-322
 324-GlyTrpGluLysThrValSerHis-331
 335-ThrLeuLysPhePheGlyLysLeuIle-343
 351-HisIleSerGlyProLeuThrIleAla-359

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373-TyrLeuGluPheLeuAlaLeu-379

Antigenic Index - Jameson-Wolf

44-PhePheThrArgLysArgGlyAspThrGlu-53
 68-ValAspThrArgGluGlyGluValSerGluAlaAspLeu-80
 84-PheAspLysGlnHisProAlaLysArg-92
 128-ThrValGluProAspThrValAla-135
 139-GlyPheGlnSerGlyAspLysIleGlnSer-148
 156-AspTrpSerSerAlaGlnThr-162
 187-ArgThrIleAspAlaAlaGlyThrProGluAlaGlyLysIleAlaLysAsnGlnGly-205
 219-GlyGlyValGluLysGlySerProAlaGluLysAlaGlyLeuLysProGlyAspArgLeuThrAlaAlaAspGlyLysProIle-246
 254-AsnLeuThrArgGlnSerProGlyLysLysIle-264
 268-TyrGluArgAlaGlyGlnThrHisThrAlaAspIleArgProAspThrValGluGlnProAspHisThrLeu-291
 295-ValGlyLeuArgProGlnProAspArgAlaTrp-305
 307-AlaGlnIleArgArgSerTyrArgProSerVal-317
 327-LysThrValSerHisSer-332
 343-IleSerGlyAsnAla-347
 362-AlaGlyGlnSerAla-366
 408-IleArgGlyLysProLeuGlyGluArgValGln-418

Hydrophilic Regions - Hopp-Woods

44-PhePheThrArgLysArgGlyAspThr-52
 68-ValAspThrArgGluGlyGluValSerGluAlaAspLeu-80
 84-PheAspLysGlnHisProAlaLysArg-92
 129-ValGluProAspThrValAla-135
 139-GlyPheGlnSerGlyAspLysIleGlnSer-148
 193-GlyThrProGluAlaGlyLysIleAlaLys-202
 220-GlyValGluLysGlySerProAlaGluLysAlaGlyLeuLysProGlyAspArgLeuThrAlaAlaAspGlyLysPro-245
 256-ThrArgGlnSerProGlyLysLysIle-264
 268-TyrGluArgAlaGlyGln-273
 277-AlaAspIleArgProAspThrValGluGlnProAsp-288
 299-ProGlnProAspArgAlaTrp-305
 308-GlnIleArgArgSerTyrArg-314
 362-AlaGlyGlnSerAla-366
 411-LysProLeuGlyGluArgValGln-418

g592**AMPHI Regions** - AMPHI

6-PheGlyGlnIlePheSer-11
 21-GlyGlyLeuLeuGlyGlyLeuIle-28
 50-AlaProAsnAlaAlaAlaAlaAla-57
 65-GlnGlyMetIleGlnMetLeuGlyValPheValAsp-76
 94-ProTyrGlyAspLeu-98
 109-ValSerGlnValGlyGlnTrp-115
 153-ThrAlaValPheArgMet-158
 165-TyrPheGlyAlaValAla-170
 185-IleMetAlaTrpIleAsnLeuValAlaIleLeuLeuLeuSer-198

Antigenic Index - Jameson-Wolf

35-GlyIleLysArgGlyLeuTyrSerAsnGluAlaGlyMetGlySerAlaProAsnAla-53
 57-AlaGluValLysHisProValSer-64
 93-GlnProTyrGlyAspLeuSerGly-100
 137-AlaTyrAlaGluSerAsnVal-143

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206-ArgAspTyrThrAlaLysLeuLysMetGlyLysAspProGluPheLysLeuSerGluHisProGlyLeuLys
ArgArgIleLysSerAspValTrp-237

Hydrophilic Regions - Hopp-Woods

35-GlyIleLysArgGlyLeuTyr-41
57-AlaGluValLysHisProVal-63
212-LeuLysMetGlyLysAspProGluPheLysLeuSerGlu-224
226-ProGlyLeuLysArgArgIleLysSer-234
g593

AMPHI Regions - AMPHI

6-GlyLeuCysLysCysPheGlyGly-13
41-SerThrLeuLeuAsnMetIleAlaGlyIleValArg-52
87-HisMetSerAlaLeuGlu-92
113-LeuSerAlaLeuAlaGlu-118
125-AlaHisArgLysProGluLysLeuSerGlyGlyGlu-136
159-PheSerSerLeuAsp-163
165-HisLeuArgAspArgLeuArgArgMet-173
217-GluThrLeuIleGlnThrProAlaGlyValGlnValAlaArgLeuMetGlyLeu-234
259-LeuLeuSerLeuValArgLeuProAspSerLeuArg-270
290-HisThrAspGlyIle-294

Antigenic Index - Jameson-Wolf

10-CysPheGlyGlyLysThrValAla-17
24-ValGlyArgGlyLysIle-29
33-LeuGlyArgSerGlyCysGlyLysSerThr-42
50-IleValArgProAspGlyGlyGluIleArgLeuAsnGlyGluAsnIleThr-66
69-ProProGluLysArgArgIle-75
99-LysMetGlnLysMetProLysAlaGluAlaGluArgLeuAla-112
119-ValGlyLeuGluAsnGluAlaHisArgLysProGluLysLeuSerGlyGlyGluLysGlnArgLeuAlaLeu-142
157-GluSerPheSerSerLeu-162
164-ThrHisLeuArgAspArgLeuArgArgMetThrAlaGluArgIleArgLysGlyGlyIle-183
190-HisSerProGluGluAlaCysThrAlaAlaAspGluIleAlaVal-204
206-HisGluGlyLysIleLeuGlnCysGlyThrProGluThrLeu-219
233-GlyLeuProAsnThrAspAspAspArgHisIleProGlnAsnAla-247
250-LeuAspAsnHisGlyThrGluCysArg-258
264-ArgLeuProAspSerLeuArgLeu-271
275-HisProGluHisGlyGlu-280
289-GlnHisThrAspGlyIleSerGlyAsnGly-298
300-ValArgIleArgValAspGluGlyArgIleValArgPheArg-313

Hydrophilic Regions - Hopp-Woods

25-GlyArgGlyLysIle-29
36-SerGlyCysGlyLys-40
51-ValArgProAspGlyGlyGluIleArgLeuAsnGly-52
69-ProProGluLysArgArgIle-75
99-LysMetGlnLysMetProLysAlaGluAlaGluArgLeuAla-112
119-ValGlyLeuGluAsnGluAlaHisArgLysProGluLysLeuSerGlyGlyGluLysGlnArgLeuAlaLeu-142
164-ThrHisLeuArgAspArgLeuArgArgMetThrAlaGluArgIleArgLysGlyGly-182
191-SerProGluGluAlaCysThrAlaAlaAspGluIleAlaVal-204
206-HisGluGlyLysIle-210
236-AsnThrAspAspAspArgHisIlePro-244
253-HisGlyThrGluCysArg-258
264-ArgLeuProAspSerLeuArg-270

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275-HisProGluHisGlyGlu-280
 289-GlnHisThrAspGlyIleSer-295
 300-ValArgIleArgValAspGluGlyArgIleValArgPheArg-313
g594

AMPHI Regions - AMPHI

21-SerIleLeuArgLeu-25
 108-AlaGlyArgLysCysGlnGluThrAlaAlaAla-118
 138-AlaIleLysHisCysAsnPheThr-145

Antigenic Index - Jameson-Wolf

1-MetGlyAlaAspThrAspGlyAspLysAspValArgLeuAsnArgThr-16
 51-ValGluHisProAsnArgPhe-57
 75-HisLeuAspGlySerThrGlyGly-82
 86-PheArgArgGluLysThrGlyHisLysArgArgCysHisThrGlnCys-101
 103-HisSerAlaArgAlaAlaGlyArgLysCysGlnGluThr-115
 137-ArgAlaIleLysHisCysAsn-143

Hydrophilic Regions - Hopp-Woods

1-MetGlyAlaAspThrAspGlyAspLysAspValArgLeuAsnArg-15
 86-PheArgArgGluLysThrGlyHisLysArgArgCysHis-98
 105-AlaArgAlaAlaGlyArgLysCysGlnGluThr-115
g595

AMPHI Regions - AMPHI

20-CysGlnProProGluAla-25
 98-GlyLeuSerAspLysMetAsnArg-105
 140-AlaAspLeuGluLysLeuProGlnProLeuAlaAspTyrLys-153
 157-GlnGlyGluValLys-161
 170-PheThrGluAlaValLysAlaGlyAspIleGluLysAlaLys-183
 196-IleGluProIleAlaGluLeuPheSerGluLeuAspProValIleAspAlaCysGluAspAspPheLysAsp
 Gly-220
 224-AlaGlyPheThrGlyPheHisArg-231
 247-GluThrAlaAlaLysLeuMetThrAspValGluAlaLeuGlnLysGluIleAsp-264
 274-ValGlyGlyAlaSerGluLeuIleGlu-282
 311-SerLysLysIleValAspLeuPheArgProLeu-321
 337-PheLysGlnValAsnGluIleLeuAlaLys-346
 351-AspGlyPheGluThrTyrAspLysLeuSerGluAlaAsp-363
 369-AlaProIleAsnAlaLeuAlaGluAspLeuAlaGlnLeuArgGlyIleLeuGlyLeu-387

Antigenic Index - Jameson-Wolf

1-MetArgLysPheAsn-5
 21-GlnProProGluAlaGluLysAlaAlaPro-30
 32-AlaSerGlyGluThrGlnSerAlaAsnGluGlyGlySer-44
 50-AsnAspAsnAlaCysGluProMetAsnLeu-59
 70-IleLysAsnAsnSerGlyArgLysLeuGluTrpGluIle-82
 87-MetValValAspGluArgGluAsnIleAla-96
 98-GlyLeuSerAspLysMetAsnArgAsnLeuLeuProGlyGlyTyrGluMet-114
 120-ThrAsnProArgGlyLysLeuValVal-128
 130-AspSerGlyPheLysAspThrAlaAsnGluAlaAspLeuGluLysLeuPro-146
 158-GlyGluValLysGluLeuAlaAlaLysThrLysThrPheThrGluAlaValLysAlaGlyAspIleGluLys
 AlaLysSer-184
 191-ValHisTyrGluArgIleGluProIle-199
 204-SerGluLeuAspProValIleAspAlaCysGluAspAspPheLysAspGlyAlaLysAspAlaGly-225
 238-ValGluLysAspValSerGlyValLysGluThrAlaAla-250
 252-LeuMetThrAspValGluAlaLeuGlnLysGluIleAsp-264
 269-ProProGlyLysValValGlyGlyAla-277

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279-GluLeuIleGluGluAlaAlaGlySerLysIleSerGlyGluGluAspArgTyrSerHisThrAspLeuSer
 AspPheGlnAlaAsnAlaAspGlySerLysLysIleValAsp-316
 322-IleGluAlaLysAsnLysAlaLeuLeuGluLysThrAspThrAsnPheLysGlnValAsn-341
 345-AlaLysTyrArgThrLysAspGlyPheGluThrTyrAspLysLeuSerGluAlaAspArgLysAlaLeu-36
 7
 374-LeuAlaGluAspLeuAlaGln-380

Hydrophilic Regions - Hopp-Woods

1-MetArgLysPheAsn-5
 21-GlnProProGluAlaGluLysAlaAlaPro-30
 32-AlaSerGlyGluThrGlnSerAlaAsnGluGlyGlySer-44
 72-AsnAsnSerGlyArgLysLeuGluTrpGluIle-82
 87-MetValValAspGluArgGluAsnIle-95
 99-LeuSerAspLysMetAsnArg-105
 110-GlyGluTyrGluMet-114
 122-ProArgGlyLysLeuValVal-128
 131-SerGlyPheLysAspThrAlaAsnGluAlaAspLeuGluLysLeuPro-146
 158-GlyGluValLysGluLeuAlaAlaLysThrLysThrPheThrGluAlaValLysAlaGlyAspIleGluLys
 AlaLysSer-184
 191-ValHisTyrGluArgIleGluProIle-199
 204-SerGluLeuAspProValIleAspAlaCysGluAspAspPheLysAspGlyAlaLysAspAlaGly-225
 238-ValGluLysAspValSerGlyValLysGluThrAlaAla-250
 252-LeuMetThrAspValGluAlaLeuGlnLysGluIleAsp-264
 279-GluLeuIleGluGluAlaAlaGlySerLysIleSerGlyGluGluAspArgTyrSerHis-298
 308-AlaAspGlySerLysLysIleValAsp-316
 322-IleGluAlaLysAsnLysAlaLeuLeuGluLysThrAspThrAsnPhe-337
 347-TyrArgThrLysAspGlyPheGluThrTyrAspLysLeuSerGluAlaAspArgLysAlaLeu-367
 374-LeuAlaGluAspLeuAlaGln-380

g596-2**AMPHI Regions - AMPHI**

9-MetLeuArgValSerLysValVal-16
 50-LeuArgIleMetAlaGlyValAspLys-58
 87-ValArgGluGluValGluSerGlyLeuGlyGluValAlaAlaAlaGlnLysArgLeuGluGluValTyrAlaG
 luTyr-112
 192-ProThrAsnHisLeuAsp-197
 202-GluTrpLeuGluGlnPheLeuValArgPheProGly-213
 296-ArgPheGluGluMetSerAsnTyr-303
 322-LeuGlyAsnGluValIleGluPheValAsnValSerLysSerPhe-336
 366-SerThrLeuPheLysMet-371
 409-AspAsnIleAlaGlu-413
 440-AspGlnSerLysIleAlaArgGlnLeuSerGly-450
 483-LeuArgAlaLeuGluAspAlaLeuLeuGluPheAla-494

Antigenic Index - Jameson-Wolf

16-ValProProGlnLysThrIleIleLysAspIleSer-27
 41-LeuAsnGlyThrGlyLysSerThrVal-49
 54-AlaGlyValAspLysGluPheGluGlyGluAla-64
 75-LeuProGlnGluProGluLeuAspProGluLysThrValArgGluGluValGluSerGlyLeu-95
 99-AlaAlaAlaGlnLysArgLeuGluGluValTyr-109
 112-TyrAlaAsnProAspAlaAspPheAspAlaLeuAlaGluGlnGlyArgLeuGlu-130
 136-GlySerSerThrGlyGlyAlaGluHisGluLeuGluIleAlaAlaAspAlaLeuArgLeuProAspTrp
 AspAlaLysIle-163
 165-AsnLeuSerGlyGlyGluLysArgArgValAla-175
 181-LeuSerLysProAspMet-186
 190-AspGluProThrAsnHisLeuAspAlaGluSer-200

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219-ThrHisAspArgTyrPhe-224
 233-LeuGluLeuAspArgGlyHisGlyIle-241
 243-TrpLysGlyAsnTyrSerSer-249
 251-LeuGluGlnLysGluLysArgLeuGluAsnGluAlaLysSerGluAlaAlaArgValLysAlaMetLysGln
 GluLeuGluTrpValArgGlnAsnAlaLysGlyArgGlnAlaLysProLysAlaArgLeuAlaArgPheGluGluM
 etSerAsnTyrGluTyrGlnLysArgAsnGluThrGlnGlu-313
 319-AlaGluArgLeuGlyAsnGluVal-326
 333-SerLysSerPheGlyAspLysValLeu-341
 360-ProAsnGlyAlaGlyLysSerThrLeu-368
 373-AlaGlyLysGluGlnProAspSerGlyGluValLysIle-385
 395-AspGlnSerArgGluGlyLeuGlnAsnAspLysThrValPhe-408
 411-IleAlaGluGlyArgAspIleLeu-418
 425-IleProAlaArgGlnTyrLeuGlyArgPheAsnPheLysGlySerAspGlnSerLysIleAlaArgGlnLeu
 SerGlyGlyGluArgGlyArgLeuHisLeu-458
 471-LeuAspGluProSerAsnAspLeuAspValGluThrLeuArgAlaLeuGlu-487
 501-SerHisAspArgTrpPhe-506
 516-AlaCysGluGlyAspSerLysTrp-523
 527-AspGlyAsnTyrGlnGluTyrGluAlaAspLysLysArgArgLeuGlyLysGluGlyAlaLysProLysArg
 IleLysTyrLysProValThrArg-558

Hydrophilic Regions - Hopp-Woods

54-AlaGlyValAspLysGluPheGluGlyGluAla-64
 77-GlnGluProGluLeuAspProGluLysThrValArgGluGluValGluSerGlyLeu-95
 99-AlaAlaAlaGlnLysArgLeuGluGluValTyr-109
 113-AlaAsnProAspAlaAspPheAspAlaLeuAlaGluGluGlnGlyArgLeuGlu-130
 141-GlyGlyAlaGluHisGluLeuGluIleAlaAlaAspAlaLeuArg-155
 157-ProAspTrpAspAlaLysIle-163
 167-SerGlyGlyGluLysArgArgValAla-175
 181-LeuSerLysProAsp-185
 190-AspGluProThrAsnHisLeuAspAlaGluSer-200
 233-LeuGluLeuAspArgGlyHis-239
 251-LeuGluGlnLysGluLysArgLeuGluAsnGluAlaLysSerGluAlaAlaArgValLysAlaMetLysGln
 GluLeuGluTrp-278
 280-ArgGlnAsnAlaLysGlyArgGlnAlaLysProLysAlaArgLeuAlaArgPheGluGluMetSerAsn-30
 2
 304-GluTyrGlnLysArgAsnGluThrGln-312
 319-AlaGluArgLeuGlyAsnGluVal-326
 373-AlaGlyLysGluGlnProAspSerGlyGluValLysIle-385
 395-AspGlnSerArgGluGlyLeuGlnAsnAspLysThrValPhe-408
 411-IleAlaGluGlyArgAspIleLeu-418
 435-AsnPheLysGlySerAspGlnSerLysIleAlaArg-446
 448-LeuSerGlyGlyGluArgGlyArgLeuHisLeu-458
 472-AspGluProSerAsnAspLeuAspValGluThrLeuArgAlaLeuGlu-487
 517-CysGluGlyAspSer-521
 529-AsnTyrGlnGluTyrGluAlaAspLysLysArgArgLeuGlyLysGluGlyAlaLysProLysArgIleLys
 Tyr-553

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AMPHI Regions - AMPHI

6-SerAsnSerLeuLysGlnLeuGlnGlu-14
 45-TrpAspLysPheGlnLysLeu-51
 68-GlnIleSerArgPheValSerGly-75
 101-LeuArgTyrThrArgTyrValAsnAla-109
 111-AsnArgGluValValLysAspLeuGluLysGlnGln-122
 132-IleAsnAsnGluLeuAlaArgLeuLysLys-141
 144-AlaAsnValGlnSerLeu-149

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157-AspAlaAlaGluGlnThrGlu-163
 170-LysIleSerLysAspAlaArg-176
 189-AsnLysLeuLeuSer-193
 253-ProSerValMetGlyIleGlySerAlaAspGlyPheSerArgMetGlnGlyArgLeuLysLysProValAsp
 GlyValProThrGly-281
 302-ProAlaThrValGluSerIleAla-309
 314-SerTyrAlaAspGluLeuAspGlyTyrGlyLysVal-325
 336-SerIleTyrAlaGlyLeuSerGluIleSerAlaGlyLys-348

Antigenic Index - Jameson-Wolf

7-AsnSerLeuLysGlnLeuGlnGluGluArgIleArgGlnGluArgIleArgGlnGluArgIleArgGlnAlaArg
 GlyAsnLeu-34
 36-SerValAsnArgLysGlnArgGluAlaTrpAspLysPheGlnLysLeuAsnThrGluLeuAsnArgLeuLysT
 hrGluValAlaAla-64
 74-SerGlyAsnTyrLysAsnSerArgProAsnAla-84
 91-AsnAlaGluProGlyGlnLysAsnArgPhe-100
 107-ValAsnAlaSerAsnArgGluValValLysAspLeuGluLysGlnGlnLys-123
 128-GlnGluGlnLysIleAsnAsnGluLeuAlaArgLeuLysLysIleGln-143
 149-LeuLeuLysLysGlnGlyValThrAspAlaAlaGluGlnThrGluSerArgGlnAsnAlaLysIleSer
 LysAspAlaArgLysLeuLeuGluGlnLysGlyAsnGluGlnGlnLeu-188
 191-LeuLeuSerAsnLeuGluLysLysLysAlaGluHisArgIleGlnAspAlaGluAlaLysArgLysLeuAla
 GluAlaLysLeuAlaAlaAlaGluLysAlaArgLysGluAlaAlaGlnGlnLysAlaGluAlaArgArgAlaGluM
 etSerAsnLeuThrAlaGluAspArgAsnIleGlnAlaProSer-254
 259-GlySerAlaAspGlyPheSerArgMetGlnGlyArgLeuLysLysProValAspGlyValProThr-280
 284-GlyGlnAsnArgSerGlyGlyAspVal-292
 314-SerTyrAlaAspGluLeuAspGlyTyrGly-323
 329-AspHisGlyGluAsnTyr-334
 343-GluIleSerAlaGlyLysGlyTyrThr-351
 354-AlaGlySerLysIleGlyThrSerGlySerLeuProAspGlyGluGluGlyLeu-371
 375-IleArgTyrArgGlyGlnValLeuAsnProSerGlyTrp-387

Hydrophilic Regions - Hopp-Woods

7-AsnSerLeuLysGlnLeuGlnGluGluArgIleArgGlnGluArgIleArgGlnGluArgIleArgGlnAlaArg
 GlyAsn-33
 37-ValAsnArgLysGlnArgGluAlaTrpAspLysPheGlnLysLeuAsnThrGluLeuAsnArgLeuLysThrG
 luValAlaAla-64
 77-TyrLysAsnSerArgProAsn-83
 91-AsnAlaGluProGlyGlnLysAsnArgPhe-100
 110-SerAsnArgGluValValLysAspLeuGluLysGlnGlnLys-123
 128-GlnGluGlnLysIleAsnAsnGluLeuAlaArgLeuLysLysIleGln-143
 149-LeuLeuLysLysGlnGlyValThrAspAlaAlaGluGlnThrGluSerArgGlnAsnAlaLysIleSer
 LysAspAlaArgLysLeuLeuGluGlnLysGlyAsnGluGlnGlnLeu-188
 193-SerAsnLeuGluLysLysLysAlaGluHisArgIleGlnAspAlaGluAlaLysArgLysLeuAlaGluAla
 LysLeuAlaAlaAlaGluLysAlaArgLysGluAlaAlaGlnGlnLysAlaGluAlaArgArgAlaGluMet-240
 244-ThrAlaGluAspArgAsnIleGln-251
 267-MetGlnGlyArgLeuLysLysProValAsp-276
 286-AsnArgSerGlyGlyAspVal-292
 315-TyrAlaAspGluLeuAspGlyTyrGly-323
 356-SerLysIleGlyThr-360
 363-SerLeuProAspGlyGluGluGlyLeu-371
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AMPHI Regions - AMPHI

7-LeuValAspGluIleAspValProAsnIleGlyArg-18
 26-AlaGlyIleProThrValPhe-32

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42-GlyLysGluLeuGlnAspAspIleAsnAsnAspAlaAlaAlaLeuGluLysPheGluThrIleArgAlaTyrGlyAlaLeu-68
 70-MetGlyLeuIleSerAspValSerGlu-78
 100-SerSerGlyLysThrValAsn-106
 137-AlaValLeuGlyThrLeuValAsnLeuAlaAla-147
 167-GlyAlaAlaAlaGlu-171

Antigenic Index - Jameson-Wolf

3-ProThrGlyAsnLeuValAspGluIleAspValProAsnIleGlyArgLeuLys-20
 39-GlyTyrThrGlyLysGluLeuGlnAspAspIleAsnAsnAspAlaAlaAlaLeuGluLysPheGluThr-61
 75-AspValSerGluAlaAlaAlaArgAlaArgThrProLysProAlaPhe-90
 97-TyrThrAlaSerSerGlyLysThrValAsn-106
 108-AlaAspIleAspLeuProVal-114
 147-AlaGlyGlyGlyThrArgLysGluValArgPheGlyHisProSerGlyThrLeuArg-165
 170-AlaGluCysGlnAspGlyGln-176
 183-ValMetSerArgSerAlaArgValIle-191
 196-ValArgValProAspAspCysPhe-203

Hydrophilic Regions - Hopp-Woods

7-LeuValAspGluIleAspVal-13
 40-TyrThrGlyLysGluLeuGlnAspAspIleAsnAsnAspAlaAlaAlaLeuGluLysPheGluThr-61
 75-AspValSerGluAlaAlaAlaArgAlaArgThrProLys-87
 99-AlaSerSerGlyLysThrValAsn-106
 108-AlaAspIleAspLeuProVal-114
 149-GlyGlyThrArgLysGluValArgPhe-157
 170-AlaGluCysGlnAsp-174
 186-ArgSerAlaArgValIle-191
 198-ValProAspAspCysPhe-203

g602**AMPHI Regions** - AMPHI

54-ArgGlnValAlaGlnIle-59
 61-AlaGlyLeuHisValCysAsnGlyVal-69

Antigenic Index - Jameson-Wolf

5-GlnCysAspLysAlaArgHisMetArgPro-14
 17-LeuGlyGlyGlnIleAsnArgHisArgGlnAlaSerAsnArgGlyLeuCys-33
 35-PheGlyGlyPheGlnGlyAsnArgGluAlaGln-45
 51-LeuIleAspArgGlnVal-56
 88-GlyArgGlnMetProSerGluLysThrLeu-97
 103-GlnMetArgAspTyr-107

Hydrophilic Regions - Hopp-Woods

5-GlnCysAspLysAlaArgHisMet-12
 21-IleAsnArgHisArgGlnAlaSerAsnArgGly-31
 39-GlnGlyAsnArgGluAlaGln-45
 51-LeuIleAspArgGlnVal-56
 91-MetProSerGluLysThrLeu-97

g603**AMPHI Regions** - AMPHI

119-MetLeuLeuAsnGluLeuGluLys-126
 131-AspArgIleLysAlaIleGlyArgArgIleAlaHisGlyGlyGluLysTyr-147
 157-ValLeuAspGluLeuLysAlaCysIlePro-166
 171-HisAsnProAlaAsnIleSerGlyIleLeuAla-181
 185-HisPheProGlyLeuProAsnValGly-193
 198-SerPheHisGlnThrMetPro-204

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211-AlaValProArgGluLeu-216
 238-GluAlaAlaArgIleLeuGlyLysProLeuGluAspIleArgMetIleIleAlaHis-256
 259-AsnGlyAlaSerIleThrAlaValLysAsnGlyLysSerVal-272
 279-ThrProIleGluGly-283
 298-TyrSerTyrProThr-302
 323-ProGlyIleSerGluLeuProAsnAspCysArgThr-334
 356-ArgLeuAlaLysTyrIleAlaSerMetAla-365
 392-ValSerTyrLeuAsp-396

Antigenic Index - Jameson-Wolf

1-MetAspSerArgLeuArgGlyAsnAspAlaArgLysTyrGly-14
 17-PheAlaGlnArgGlyArgLeuLysHisThrProProAsnAlaHisProPheSerAspGlyProAlaProLysLysGlnProGlnThrThrArgArgAsnIleMetSer-52
 64-SerSerLeuLysGlyAlaValIleAspArgLysSerGlySer-77
 83-LeuGlyGluArgLeuThrThrProGluAla-92
 95-ThrPheAsnLysAspGlyAsnLysArgGlnValProLeuSerGlyArgAsnCysHis-113
 123-GluLeuGluLysHisGlyLeuHisAspArgIleLysAlaIleGlyArgArgIleAlaHisGlyGlyGluLysTyrHisGlu-149
 151-ValLeuIleAspGlnAspValLeuAspGluLeuLysAla-163
 202-ThrMetProGluArgAlaTyr-208
 214-ArgGluLeuArgLysLysTyrAlaPheArgArgTyrGlyPheHisGlyThrGlyMet-232
 238-GluAlaAlaArgIleLeuGlyLysProLeuGluAspIleArg-251
 257-LeuGlyAsnGlyAla-261
 264-ThrAlaValLysAsnGlyLysSerValAspThrGlyMet-276
 288-ThrArgCysGlyAspThrAspProGlyVal-297
 310-AlaGlnValAspGluMetLeuAsnGluLysSerGlyPheProGlyIleSerGluLeuProAsnAspCysArgThrLeuGluIleAlaAlaAspGluGlyArgGluGlyAlaArgLeu-348
 379-GlyIleGlyGluAsnSerArgAsnIleArgAlaLysThr-391
 402-IleAspThrLysAlaAsnMetGluLysArgTyrGlyAsnSerGlyIle-417
 419-SerProThrAspSerSerPro-425
 431-ProThrAsnGluGluLeu-436

Hydrophilic Regions - Hopp-Woods

1-MetAspSerArgLeuArgGlyAsnAspAlaArgLysTyrGly-14
 17-PheAlaGlnArgGlyArgLeuLysHisThrPro-27
 34-SerAspGlyProAlaProLysLysGlnProGlnThrThrArgArgAsnIleMet-51
 69-AlaValIleAspArgLysSerGly-76
 83-LeuGlyGluArgLeuThrThr-89
 96-PheAsnLysAspGlyAsnLysArgGlnValProLeuSerGlyArgAsnCysHis-113
 123-GluLeuGluLysHisGlyLeuHisAspArgIleLysAlaIleGlyArgArgIleAlaHisGlyGlyGluLysTyrHisGlu-149
 156-AspValLeuAspGluLeuLysAla-163
 203-MetProGluArgAlaTyr-208
 214-ArgGluLeuArgLysLysTyrAlaPhe-222
 238-GluAlaAlaArgIleLeuGlyLysProLeuGluAspIleArg-251
 267-LysAsnGlyLysSerValAspThr-274
 289-ArgCysGlyAspThrAspPro-295
 310-AlaGlnValAspGluMetLeuAsnGluLysSerGly-321
 328-LeuProAsnAspCysArgThrLeuGluIleAlaAlaAspGluGlyArgGluGlyAlaArgLeu-348
 380-IleGlyGluAsnSerArgAsnIleArgAlaLysThr-391
 402-IleAspThrLysAlaAsnMetGluLysArgTyrGly-413
 432-ThrAsnGluGluLeu-436

g604**AMPHI Regions - AMPHI**

35-SerValValGlnPheAla-40

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49-IleAspValGlyGlyValTyrGly-56
 98-AspGlyPheLysPhePheGln-104
 111-AspValValLeuGlnLeuPheAlaArgValAlaGlnValGlyGlyValGlnGluAsn-129
 146-ArgHisIleAsnPheValAspGlnIleAlaGlyTrpGlu-158

Antigenic Index - Jameson-Wolf

10-SerAlaAlaCysGlyLysValAspGlnArgThrGluHisGlyGlyGlyAspGlyAspArgGlyAspAlaHis-33
 44-GlyAlaTyrArgGlnIleAspVal-51
 65-GlyGlyGlyArgAspGluGlyGlyPheArgArgAlaArgAlaGlyGlyGlyPhe-82
 95-IleCysAlaAspGly-99
 101-LysPhePheGlnArgGlyGlyIle-108
 125-GlyValGlnGluAsnGlyArgAsnAlaArgValAspGluArgGlyPheGln-141

Hydrophilic Regions - Hopp-Woods

14-GlyLysValAspGlnArgThrGluHisGlyGlyGlyAspGlyAspArgGlyAspAlaHis-33
 66-GlyGlyArgAspGluGlyGlyPheArgArgAlaArgAla-78
 125-GlyValGlnGluAsnGlyArgAsnAlaArgValAspGluArgGlyPhe-140

g605**AMPHI Regions - AMPHI**

13-ArgGlnIleTrpLysIleAlaAsp-20
 38-ThrLeuPheTyrArgPheIleSerGluAsnPheThrAspTyrMetGln-53
 107-LysLeuLysGluIlePheThrAlaIle-115
 126-GlnGlyIleLysGlyLeuPheAspAspPheAsp-136
 141-ArgLeuGlySerThr-145
 155-AlaValLeuLysGlyValAlaGluLeu-163
 178-AspAlaTyrGluTyrLeuIleSerAsn-186
 188-AlaAlaAsnAlaGlyLys-193
 204-ValSerLysLeuIleAlaArg-210
 217-GluLysValAsnLysIleTyrAspPro-225
 240-PheAspGluHisIle-244
 291-AspSerLysProPheAspAlaValValSerAsn-301
 341-HisAlaLeuAsnTyr-345
 355-ValSerPheProGly-359
 433-GluHisIleAlaGluIleValLysLeuPheAla-443
 452-AlaGlnAsnAlaAlaGlnGlnThr-459
 478-ThrArgGluValIleAspIle-484
 489-AlaGluIleSerGluThrValAlaLysIleGluArgLeuArgArgGluIleAspGluValIleAlaGluIleGlu-513

Antigenic Index - Jameson-Wolf

5-MetGlnGlnArgAlaGlnLeu-11
 18-IleAlaAspGluValArgGlyAlaValAspGlyTrpAsp-30
 44-IleSerGluAsnPheThrAspTyrMetGlnAlaGlyAspSerSerIleAsp-60
 63-AlaMetProAspSer-67
 71-ProGluIleLysAspAspAlaValLysVal-80
 98-AlaHisGlnAsnGluGluLeuAsnThrLysLeuLysGlu-110
 116-GluSerSerAlaSerGlyTyrProSerGluGlnGlyIleLysGlyLeuPheAspAspPheAspThrThrSerSerArgLeu-142
 146-ValAlaAspLysAsnLysArgLeu-153
 164-AspPheGlyAsnPheGluAspHisArgIle-173
 190-AsnAlaGlyLysSerGlyGlyGluPhePheThr-200
 215-GlyGlnGluLysValAsnLysIleTyrAspProAlaCysGlySerGlySer-231
 235-GlnAlaLysLysGlnPheAsp-241
 253-GluIleAsnHisThrThrTyrAsn-260

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280-LeuGlyAspThrLeuThrAsnProLysLeuLysAspSerLysProPheAspAla-297
 309-IleGlySerAspAspProThrLeuIleAsnAspAspArgPheAlaPro-324
 330-ProLysSerLysAlaAsp-335
 345-TyrLeuSerGlyArgGlyArgAlaAla-353
 362-TyrArgGlyGlyAlaGluGlnLysIleArg-371
 403-LeuSerLysHisLysAspAsnThrAsp-411
 419-GlyPhePheLysLysGluThrAsnAsnValLeuThrGluGluHisIle-435
 442-PheAlaAspLysAlaAspVal-448
 458-GlnThrValLysAspAsnGlyTyr-465
 473-ValGluAlaGluAspThrArgGluValIleAsp-483
 490-GluIleSerGluThrValAlaLysIleGluArgLeuArgArgGluIleAspGluValIleAlaGluIleGlu
 Thr-514

Hydrophilic Regions - Hopp-Woods

18-IleAlaAspGluValArgGlyAlaValAsp-27
 55-GlyAspSerSerIle-59
 71-ProGluIleLysAspAspAlaValLysVal-80
 98-AlaHisGlnAsnGluGluLeuAsnThrLysLeuLysGlu-110
 131-LeuPheAspAspPheAspThrThrSerSerArgLeu-142
 146-ValAlaAspLysAsnLysArgLeu-153
 167-AsnPheGluAspHisArgIle-173
 191-AlaGlyLysSerGlyGly-196
 215-GlyGlnGluLysValAsnLysIleTyrAsp-224
 235-GlnAlaLysLysGlnPheAsp-241
 287-ProLysLeuLysAspSerLysProPhe-295
 310-GlySerAspAspProThrLeuIleAsnAspAspArgPheAla-323
 330-ProLysSerLysAlaAsp-335
 348-GlyArgGlyArgAla-352
 364-GlyGlyAlaGluGlnLysIleArg-371
 404-SerLysHisLysAspAsnThrAsp-411
 419-GlyPhePheLysLysGluThrAsn-426
 430-LeuThrGluGluHisIle-435
 442-PheAlaAspLysAlaAspVal-448
 458-GlnThrValLysAspAsnGly-464
 473-ValGluAlaGluAspThrArgGluValIleAsp-483
 490-GluIleSerGluThrValAlaLysIleGluArgLeuArgArgGluIleAspGluValIleAlaGluIleGlu
 Thr-514

g606**AMPHI Regions - AMPHI**

72-LeuLeuAspHisMetThrArgAspGlu-80
 90-AlaHisValGlyAsnGlyAsp-96
 100-LeuThrLeuIleGlnGlyValValAsnThrPhe-110
 116-ArgIleIleAlaAsn-120
 139-SerMetValPheGlnIleLeuPheGlyPheLeuAlaSerLeuIleVal-154
 171-LysLeuValGlyAlaProLysMetIleSerAlaLeuGlnArg-184
 191-AspLeuProGluGluMetAsnAla-198

Antigenic Index - Jameson-Wolf

13-GluValIleAspThrProArgThrGluGluAla-24
 31-GluAlaGlnAlaArgGlnTrpAsnLeuLysThrProGlu-43
 48-HisSerProGluProAsnAla-54
 57-ThrGlyAlaSerArgAsnSerSer-64
 75-HisMetThrArgAspGluValGluAla-83
 92-ValGlyAsnGlyAsp-96
 122-IleAlaArgAsnAsnAspGlySerGlnSerGlnGlyThr-134

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159-ArgGlnArgGluTyrArgAlaAspAlaGlyAla-169
 182-LeuGlnArgLeuLysGlyAsnProValAspLeuProGluGluMetAsn-197
 203-GlyAspThrArgAspSerLeuLeuSerThrHisProSerLeuAspAsnArgIleAlaArgLeuLysSer-225
 5

Hydrophilic Regions - Hopp-Woods

13-GluValIleAspThrProArgThrGluGluGluAla-24
 59-AlaSerArgAsnSer-63
 75-HisMetThrArgAspGluValGluAla-83
 124-ArgAsnAsnAspGlySerGlnSer-131
 159-ArgGlnArgGluTyrArgAlaAspAlaGlyAla-169
 183-GlnArgLeuLysGlyAsnPro-189
 191-AspLeuProGluGluMetAsn-197
 203-GlyAspThrArgAspSerLeu-209
 214-ProSerLeuAspAsnArgIleAlaArgLeuLysSer-225
 g607

AMPHI Regions - AMPHI

15-LysGluIleArgLeuLeuThrAlaLeuAlaLeu-25
 70-PheMetGlyIleMetAlaAlaLeuAsnProMetIleAlaGln-83

90-ThrGlyGluAlaGlyGlu-95
 104-GlyLeuIleLeuGlyIlePheGlyMetIleLeuMetTrpAlaAlaIleThrProPheArgAsnTrpLeuThr
 LeuSerAspTyrValGluGlyThrMet-136
 151-MetValHisArgAlaLeuHisAlaTyrAlaSerSer-162
 226-PhePheArgProPheGly-231
 244-PheLysGlnIleTrpLysIleGlyAla-252
 320-AlaArgTyrIleSerGlyValSerLeu-328
 337-IleThrValLeuSerLeuVal-343
 348-ProLeuAlaSerMetTyr-353
 373-PheGlnProAlaAspPheThrGlnCysIleAlaSerTyrAla-386
 424-TyrGlyPheTrpThrAlaLeuIleAla-432

Antigenic Index - Jameson-Wolf

4-AspLeuAspArgPheSer-9
 47-GlyAlaGlyLysGluAspLeuAla-54
 86-GlyAlaGlyLysThrGlyGluAlaGlyGluThrGlyArgGln-99
 121-ProPheArgAsnTrp-125
 128-LeuSerAspTyrValGluGlyThr-135
 160-AlaSerSerLeuAsnArgProArgLeu-168
 222-AlaLysGluLysPhePheArg-228
 234-AlaLysPheGlyLysProAspTrp-241
 311-SerLeuGlyArgArgGluPheSerArgAlaArgTyrIleSer-324
 348-ProLeuAlaSerMetTyrAsnAspProAla-358
 388-ArgGlyTyrLysValThrLys-394
 452-LeuValLysSerHisLysAlaVal-459

Hydrophilic Regions - Hopp-Woods

47-GlyAlaGlyLysGluAspLeuAla-54
 89-LysThrGlyGluAlaGlyGluThrGlyArg-98
 163-LeuAsnArgProArg-167
 222-AlaLysGluLysPhePhe-227
 312-LeuGlyArgArgGluPheSerArg-319

353-TyrAsnAspAspProAla-358
 390-TyrLysValThrLys-394

452-LeuValLysSerHisLysAlaVal-459

g608

AMPHI Regions - AMPHI

66-AlaIleArgLysIleLeuGln-72

93-ValLeuSerLeuLeu-97

103-ArgAlaSerAspGluLeuAlaArgIlePheGlyThr-114

124-AspIleGlyHisGlyIleLysGlnIleGlyArgAsnIleAlaGluGlnIleGlyGlyPheSerArgGluPro
GluSerAlaAsnThrGlyAsnGluAlaLeuAlaAspCysLeuAspGluIleSerArgLeuArgAspGlyValGluA
rgLeuAsnGluArgLeuAspArgLeu-181

Antigenic Index - Jameson-Wolf

13-LeuGlnSerProAspSerArgSerGluLeuThr-23

39-LeuAlaGlyArgIleThrGluAspGlyLeuSerAlaGlyAsnGlyPheAlaAspThrGluIleThrPheA
rgAsnSerAlaIleArgLysIleLeuGlnGlyGlyGluProGlyAlaGlyAspIleArgLeuGluGly-85

98-GlySerLeuArgSerArgAlaSerAspGluLeuAla-109

116-AlaGlyIleGlySerArgAlaThrAspIle-125

130-LysGlnIleGlyArgAsnIleAla-137

140-IleGlyGlyPheSerArgGluProGluSerAlaAsnThrGlyAsnGluAlaLeuAlaAspCysLeuAspGlu
IleSerArgLeuArgAspGlyValGluArgLeuAsnGluArgLeuAspArgLeuGluArgAspIleTrp-186

Hydrophilic Regions - Hopp-Woods

15-SerProAspSerArgSerGluLeu-22

39-LeuAlaGlyArgIleThrGluAspGlyLeu-48

56-AlaAspThrGluIleThrPhe-62

65-SerAlaIleArgLysIleLeuGln-72

74-GlyGluProGlyAlaGlyAspIleArgLeuGluGly-85

100-LeuArgSerArgAlaSerAspGluLeuAla-109

118-IleGlySerArgAlaThrAsp-124

143-PheSerArgGluProGluSerAlaAsnThrGlyAsnGluAlaLeuAlaAspCysLeuAspGluIleSerArg
LeuArgAspGlyValGluArgLeuAsnGluArgLeuAspArgLeuGluArgAspIleTrp-186

g609

AMPHI Regions - AMPHI

15-ThrLeuAspAlaPheVal-20

30-HisHisIlePheHisGluPheArgValPheValGlyLeuPhe-43

52-PheGluGlnAlaValGlu-57

67-IleAspAsnPheLeu-71

114-ValAlaValCysProVal-119

Antigenic Index - Jameson-Wolf

10-AlaLeuAspAspGluThrLeu-16

20-ValGlyAsnGlnArgSerSerAspIleAla-29

71-LeuAspThrAspPheGlyIleGlySerGlnAlaAspGlyAsnValArg-86

99-GlyThrArgAlaLysArgGlyTyrGlyAsnHisAspLeu-111

124-ArgGluAlaAspIle-128

Hydrophilic Regions - Hopp-Woods

10-AlaLeuAspAspGluThrLeu-16

23-GlnArgSerSerAspIle-28

79-SerGlnAlaAspGlyAsnVal-85

100-ThrArgAlaLysArgGlyTyrGly-107

124-ArgGluAlaAspIle-128

g610

AMPHI Regions - AMPHI

6-MetGlnPheProTyrArg-11

18-MetArgArgMetArgArg-23

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97-ThrGlyArgAlaGlnGluAlaTyr-104
 111-ProSerThrValArgAlaLeuArgGluArg-120
 187-IleArgGluAlaLeuGlu-192
 208-TyrAlaSerAlaPheTyrGlyProPheArgAsp-218
 223-SerGlyAsnLeuGlyLysAlaAsp-230
 268-LeuAspValValArgArgValLysAspGlu-277
 296-AlaAlaValAlaAsn-300

Antigenic Index - Jameson-Wolf

11-ArgAsnValProAlaSerArgMetArgArgMetArgArgAspAspPheSerArgArgLeuMetArg-32
 34-HisMetLeuThrAlaAspAsp-40
 50-GlyAlaAlaArgGluGluAspValProSerMetProGlyValLysArgGlnSerLeuAsp-69
 75-AlaGluGluAlaValLys-80
 93-ThrAlaAsnLysThrGlyArgAlaGlnGluAlaTyrAsnProGluGlyLeuVal-110
 115-ArgAlaLeuArgGluArgPhePro-122
 139-GlyGlnAspGlyLeuThrAspGluAsnGlyTyrValMetAsnAspGluThrVal-156
 175-AlaProSerAspMetMetAspGlyArgIleGlyAlaIleArgGluAlaLeuGluAspAlaGlyHis-196
 215-ProPheArgAspAlaValGlySerSerGlyAsnLeuGlyLysAlaAspLysLysThrTyrGlnMetAspPro
 AlaAsnThrAspGluAlaLeuHis-246
 250-LeuAspIleGlnGluGlyAlaAsp-257
 270-ValValArgArgValLysAspGluPheGlyVal-280
 302-TrpLeuAspGlyGlyLysValVal-309
 317-LysArgAlaGlyAlaAspGly-323
 331-GluAlaAlaLysMetLeuLysArg-338

Hydrophilic Regions - Hopp-Woods

14-ProAlaSerArgMetArgArgMetArgArgAspAspPheSerArgArgLeuMetArg-32
 34-HisMetLeuThrAla-38
 50-GlyAlaAlaArgGluGluAspValProSer-59
 61-ProGlyValLysArgGlnSerLeuAsp-69
 75-AlaGluGluAlaValLys-80
 95-AsnLysThrGlyArgAlaGlnGluAlaTyrAsn-105
 115-ArgAlaLeuArgGluArgPhePro-122
 141-AspGlyLeuThrAspGluAsnGly-148
 151-MetAsnAspGluThrVal-156
 178-AspMetMetAspGlyArgIleGlyAlaIleArgGluAlaLeuGluAspAlaGly-195
 216-PheArgAspAlaValGly-221
 225-AsnLeuGlyLysAlaAspLysLysThrTyrGln-235
 238-ProAlaAsnThrAspGluAlaLeuHis-246
 250-LeuAspIleGlnGluGlyAlaAsp-257
 270-ValValArgArgValLysAspGluPheGly-279
 317-LysArgAlaGlyAla-321
 331-GluAlaAlaLysMetLeuLysArg-338

g611**AMPHI Regions** - AMPHI

15-CysArgLeuPheGlyLysLeuSerLeu-23
 26-ArgLeuLeuProGlyLeuCysArgGly-34
 48-ArgSerValArgArgValIle-54
 63-GlnValValAlaVal-67
 104-ValPheIleGluAspPheVal-110
 130-GlyPheLeuGlyAsnValLeuArgThr-138

Antigenic Index - Jameson-Wolf

1-MetProSerGluAsnGlyMetGlyLysArgGlnLeuAla-13
 29-ProGlyLeuCysArgGlyGlyValCysArgGlyArgCys-41

-843-

45-PheProSerArgSerValArgArgValIlePheArgArgValArgIle-60
 119-AsnProAlaAspPheArgVal-125
 142-AlaProGlnGluAsp-146

Hydrophilic Regions - Hopp-Woods

1-MetProSerGluAsnGlyMetGlyLysArgGlnLeuAla-13
 35-GlyValCysArgGlyArgCys-41
 53-ValIlePheArgArgValArgIle-60
 121-AlaAspPheArgVal-125

g612**AMPHI Regions - AMPHI**

6-AsnIleAlaLysLysLeuAlaGlyVal-14
 57-LysAlaValGluLysCysAlaGluAsnValLeu-67
 80-ValGlyAspPheProAsn-85

Antigenic Index - Jameson-Wolf

7-IleAlaLysLysLeuAlaGlyValAsp-15
 17-IleAlaPheAspPheAspGly-23
 27-AspPheGlyArgAspAspAlaValArgHisSerGlyVal-39
 57-LysAlaValGluLysCysAlaGlu-64
 98-HisHisArgAsnProTyrIleLysLeuAsnLysSerLysSerProAspIlePheArg-116
 119-PheTyrGlyHisSerAsn-124

Hydrophilic Regions - Hopp-Woods

7-IleAlaLysLysLeuAlaGlyValAsp-15
 28-PheGlyArgAspAspAlaValArg-35
 57-LysAlaValGluLysCysAlaGlu-64
 105-LysLeuAsnLysSerLysSerProAspIlePhe-115

g613**AMPHI Regions - AMPHI**

95-MetProArgMetArgSerProSerSerLeuMetSerProAla-108
 140-SerSerValMetArgProAla-146
 166-GluArgLeuSerGlyLeuCysArgIle-174
 184-AspIlePheSerAspTrpGly-190

Antigenic Index - Jameson-Wolf

1-MetSerArgSerSerLeuSerArgArgSerLeuArgArgSerThrProSerArg-18
 23-SerSerArgGlnSerAlaArgAla-30
 36-AlaAspSerGlySerArgGluAsnProProIleCysSer-48
 73-ProLysIleArgAlaAsnSerSerAspAlaArgGluArgArgLeuProSerArgAspSerThrAla-94
 96-ProArgMetArgSerProSerSerLeu-104
 107-ProAlaProGlySerProPro-113
 130-AlaLysProPheProAlaGluSerLysProSerSerValMetArgProAlaSer-147
 159-ProAlaLysGluValSerSerGluArgLeuSerGlyLeuCysArgIleArgArg-176
 178-MetMetGlyArgArgAlaAspIlePheSerAspTrpGlyGlyGluCys-193

Hydrophilic Regions - Hopp-Woods

1-MetSerArgSerSerLeuSerArgArgSerLeuArgArgSerThrProSer-17
 24-SerArgGlnSerAlaArgAla-30
 38-SerGlySerArgGluAsnProPro-45
 73-ProLysIleArgAlaAsnSerSerAspAlaArgGluArgArgLeuProSerArgAspSerThrAla-94
 96-ProArgMetArgSerProSer-102
 133-PheProAlaGluSerLysProSerSerValMetArg-144
 159-ProAlaLysGluValSerSerGluArgLeuSerGly-170
 172-CysArgIleArgArg-176

178-MetMetGlyArgArgAlaAspIle-185

g614

AMPHI Regions - AMPHI

20-SerGlnPheIleArgGlnValAsnAsnGly-29

65-AsnLeuIleGlnThrLeuLeuAsn-72

90-AlaLeuPheTyrSerLeuLeuProValLeu-99

144-ValAlaGlyCysAspGluAlaLysGluGluValGlnGluIleValAspTyrLeuLysAlaProAsnArgTyr
GlnSerLeu-170

210-AspPheValGluMetPheVal-216

222-ArgValArgAspMetPheGluGln-229

242-GluIleAspAlaValGlyArg-248

295-ProAlaLeuGlnArgProGlyArgPheAsp-304

333-SerValAspLeuLeuSerLeuAla-340

349-AlaAspLeuAlaLysLeuVal-355

Antigenic Index - Jameson-Wolf

7-LeuAspGlyLysLysGluAspAsnGlyGlnIleGlu-18

25-GlnValAsnAsnGlyGluValSerGly-33

45-LeuIleLysGlyGluArgThrAspLysSerThrPhe-56

59-AsnAlaProLeuAspAspAsnLeu-66

70-LeuLeuAsnLysAsnValArgValLysValThrProGluGluLysProSerAla-87

112-GlnAlaGlyGlyGlyGlyLysGlyGly-120

123-SerPheGlyLysSerArgAlaArgLeuLeuAspLysAspAlaAsnLys-138

145-AlaGlyCysAspGluAlaLysGluGluValGlnGlu-156

161-LeuLysAlaProAsnArgTyrGlnSerLeuGlyGlyArgValProArgGly-177

182-GlySerProGlyThrGlyLysThrLeuLeu-191

207-SerGlySerAspPhe-211

219-GlyAlaSerArgValArgAspMetPheGluGlnAlaLysLysAsnAla-234

241-AspGluIleAspAlaValGlyArgGlnArgGlyAlaGlyLeuGlyGlyGlyAsnAspGluArgGluGlnThr
Leu-265

272-MetAspGlyPheGluSerAsnGln-279

287-ThrAsnArgProAspValLeuAspProAlaLeuGlnArgProGlyArgPheAspArg-305

311-LeuProAspIleArgGlyArgGluGlnXxx-320

323-ValHisSerLysLysValProLeuAspGluSerValAsp-335

341-ArgGlyThrProGlyPheSerGly-348

362-AlaGlyArgArgAsnLysValLysValAspGlnSerAspLeuLysThrProLysThrLysSer-382

Hydrophilic Regions - Hopp-Woods

7-LeuAspGlyLysLysGluAspAsnGlyGln-16

26-ValAsnAsnGlyGluValSer-32

46-IleLysGlyGluArgThrAspLysSerThr-55

61-ProLeuAspAspAsnLeu-66

73-LysAsnValArgValLysValThrProGluGluLysProSerAla-87

115-GlyGlyGlyLysGlyGly-120

125-GlyLysSerArgAlaArgLeuLeuAspLysAspAlaAsnLys-138

145-AlaGlyCysAspGluAlaLysGluGluValGlnGlu-156

162-LysAlaProAsnArg-166

171-GlyGlyArgValProArg-176

221-SerArgValArgAspMetPheGluGlnAlaLysLysAsnAla-234

241-AspGluIleAspAlaValGlyArgGlnArgGlyAlaGly-253

256-GlyGlyAsnAspGluArgGluGlnThr-264

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273-AspGlyPheGluSer-277

287-ThrAsnArgProAspValLeuAsp-294

296-AlaLeuGlnArgProGlyArgPheAspArg-305

312-ProAspIleArgGlyArgGluGlnXxx-320

324-HisSerLysLysValProLeuAspGluSerValAsp-335

362-AlaGlyArgArgAsnLysValLysValAspGlnSerAspLeuLysThrProLysThrLys-381

g616**AMPHI Regions - AMPHI**

6-LysMetValValGlyLeu-11

13-AsnProGlyLysGluTyrGlu-19

48-PheGlyGluValAlaArgAla-54

77-ValAlaAlaLeuAlaGlnPheTyrLys-85

115-GlyHisAsnGlyLeuLysAspIle-122

152-LeuAsnLysProSerAla-157

177-HisHisPheArgGlnMetGlyArg-184

203-ThrAlaPheSerArgPheProTyr-210

267-AlaProValGlnAsnLeuProAsnValAla-276

299-GlyGlyIleTyrSerLeuLeuPhe-306

319-PheAspLysAlaAla-323

363-GluCysAlaGlnAlaTrp-368

374-ThrGlySerLeuGlyAspValLeuAlaAspLeuThr-385

Antigenic Index - Jameson-Wolf

11-LeuGlyAsnProGlyLysGluTyrGluGlnThrArgHisAsnAlaGlyPhe-27

39-AlaSerPheLysGluGluLysLysPhePhe-48

55-AlaLeuProAspGly-59

70-MetAsnArgSerGlyGlnAla-76

86-IleLysProGluGlu-90

96-AspGluLeuAspIleProCysGlyArgIleLysPhe-107

109-LeuGlyGlyGlyAsnGlyGlyHisAsnGlyLeuLysAspIleGlnAla-124

138-IleGlyHisProGlyAspArgAsnLeu-146

152-LeuAsnLysProSerAlaGluAlaProProAlaAsnArgArgCysArgArgGlnIleProAlaGlyArgThr

ArgHisHisPheArgGlnMetGlyArgGlyAsnAlaLeu-188

197-ArgLeuLysProPheGlnThrAla-204

209-ProTyrProAsnSerHisGluArgThrGlnAla-219

221-TyrProAsnGlyIleHisProArgHisArgArgAsnProArgPheProAla-237

239-ArgMetGlnHisArgArgSerThrValArgArgArgSerGlyThrMetAlaArgHisThrCysArgThrArg

ArgGlnIle-265

275-ValAlaGlyArgGlyGlyMetLysLeuProArgAsnArgPhe-289

308-AlaAlaAspThrAlaProProPro-315

317-ProHisPheAspLysAlaAla-323

338-AlaPheLysThrGlyLysLeuProIlePro-347

371-AlaThrArgThrGlySerLeuGly-378

394-AlaArgSerAlaCysArgProAsp-401

Hydrophilic Regions - Hopp-Woods

13-AsnProGlyLysGluTyrGluGlnThrArgHis-23

39-AlaSerPheLysGluGluLysLysPhePhe-48

86-IleLysProGluGlu-90

96-AspGluLeuAspIleProCysGlyArgIleLysPhe-107

117-AsnGlyLeuLysAspIleGlnAla-124

140-HisProGlyAspArgAsnLeu-146

-846-

155-ProSerAlaGluAlaProProAlaAsnArgArgCysArgArgGlnIleProAlaGlyArgThrArgHisHis
Phe-179
212-AsnSerHisGluArgThrGln-218
225-IleHisProArgHisArgArgAsnProArg-234
240-MetGlnHisArgArgSerThrValArgArgArgSerGlyThrMet-254
257-HisThrCysArgThrArgArgGlnIle-265
276-AlaGlyArgGlyGlyGly-281
283-LysLeuProArgAsnArgPhe-289
308-AlaAlaAspThrAla-312
318-HisPheAspLysAlaAla-323
338-AlaPheLysThrGlyLys-343
396-SerAlaCysArgProAsp-401
g619
AMPHI Regions - AMPHI
50-LysLeuAlaAlaLeuLeu-55
66-GlnLeuPheGlnThrLeuThrAsn-73
146-GlyValIlePheGlyIleLeuPheArgSerLeuSerSerLeuLeuSerArg-162
165-AspProGluGluPhe-169
175-AsnMetPheAlaGlyPheAsn-181
246-AlaValValGlyProValSerPhePheGlyLeuLeuAlaAlaSerLeuAlaAsnHisPheSer-266
303-LeuSerValValValGluPhe-309

Antigenic Index - Jameson-Wolf

1-MetProSerGluLysAsnIle-7
12-GlySerSerArgProLeuArg-18
35-AsnValLysGlyAspTrpAsp-41
132-IleArgGlnGlyGlyArgAspLeuPro-140
163-MetIleAspProGluGluPheThr-170
182-ThrValArgSerGluLeu-187
205-GluArgTyrArgSerAspValHisLeuLeuGlyArgAspGlnAlaVal-220
265-PheSerProSerValArgHisSerVal-273

Hydrophilic Regions - Hopp-Woods

1-MetProSerGluLysAsnIle-7
13-SerSerArgProLeu-17
134-GlnGlyGlyArgAspLeuPro-140
163-MetIleAspProGluGluPheThr-170
183-ValArgSerGluLeu-187
205-GluArgTyrArgSerAspVal-211
213-LeuLeuGlyArgAspGlnAla-219
269-ValArgHisSerVal-273
g620

AMPHI Regions - AMPHI

8-IleValAlaValPheAlaLeuSerAla-16
31-IleSerAspArgSerVal-36
69-ValLysGlnMetPheGlyTyrThrLysLeuProGluGluProLysGlyIleArgValIleTyrValThrAspMetGlyAsnValThrAspTrpThr-100
139-GlnAlaGluLysPhe-143

Antigenic Index - Jameson-Wolf

16-AlaCysArgGlnAlaGluGluAlaProProLeuProArgGlnIleSerAspArgSerValGlyHisTyrCysSerMetAsnLeuThrGluHisAsnGlyProLysAla-52
56-LeuAsnGlyLysProAspGlnProVal-64
75-TyrThrLysLeuProGluGluProLysGlyIle-85
92-AspMetGlyAsnValThrAspTrpThrAsnProAsnAlaAspThrGluTrpIleAspAlaLysLys-113

-847-

125-GlyMetGlyAlaGluAspAlaLeuProPheGlyAsnLysGluGlnAlaGluLysPheAlaLysAspLysGly
 GlyLysValValGly-153
 155-AspAspMetProAsp-159

Hydrophilic Regions - Hopp-Woods

18-ArgGlnAlaGluGluAlaProProProLeu-27
 30-GlnIleSerAspArgSerVal-36
 46-GluHisAsnGlyProLys-51
 58-GlyLysProAspGln-62
 77-LysLeuProGluGluProLysGlyIle-85
 103-AsnAlaAspThrGluTrpIleAspAlaLysLys-113
 127-GlyAlaGluAspAlaLeu-132
 135-GlyAsnLysGluGlnAlaGluLysPheAlaLysAspLysGlyGlyLys-150
 155-AspAspMetProAsp-159

g622**AMPHI Regions - AMPHI**

28-LeuProGluAlaValArgAsnLeuAlaArg-37
 62-GluGluIleIleArgTrpLeuAlaAsp-70
 112-IleLeuGlyGlnIleLysAspAlaValArgAlaAlaGlnGlu-125
 132-LysLeuAsnAlaLeuPheGlnLys-139
 142-SerValAlaLysGluVal-147
 169-GluGlnIlePheProAspIleGlyAsp-177
 187-GluMetIleGluLeuValAla-193
 214-AlaGlnGluLeuCysAspLys-220
 232-AspLeuProAlaIleLeuHis-238
 288-AspLeuAsnAspAla-292
 297-ValAspAspMetValAsnIleValGlnSerGly-307
 324-GluLysValAlaGluPheValArgGlnGln-333
 345-LeuArgAspGluGlyGluLys-351
 354-LysGlnValLeuGluAsnAlaMetLysGlnLeuAlaLys-366
 372-GluValLeuGluArgLeuSerValGlnLeuThr-382
 384-LysLeuLeuHisSerProThrGlnThrLeuAsnLysAlaGlyGlu-398

Antigenic Index - Jameson-Wolf

16-SerIleArgGluLysLeuAla-22
 30-GluAlaValArgAsnLeuAlaArgSerAsnAlaAla-41
 49-ThrCysAsnArgThrGlu-54
 57-CysValGlyAspSerGluGluIleIle-65
 75-ProIleGluGluIleArgProTyr-82
 87-AspMetGlnGluThrValArgHis-94
 115-GlnIleLysAspAlaValArgAlaAlaGlnGluGlnGluSerMetGlyAla-131
 142-SerValAlaLysGluValArgThrAspThrAlaValGlyGluAsnSerVal-158
 174-AspIleGlyAspLeuAsn-179
 199-LysAsnProArgLeu-203
 210-ThrLeuAlaArgAlaGlnGluLeuCysAspLysLeuGlyValAsnAlaGlu-226
 257-GlyMetValGluArgAlaLeuLysGlnArgGlnSer-268
 277-AlaValProArgAspIleGluAlaGluValGlyAspLeuAsnAsp-291
 305-GlnSerGlyLysGluAlaArgGlnLysAlaAlaAlaAla-317
 321-LeuValSerGluLysValAlaGluPheValArgGlnGlnGlnGlyArgGlnSerVal-339
 343-LysAlaLeuArgAspGluGlyGluLysAlaArgLysGlnValLeu-357
 368-AlaThrAlaGluGluValLeuGlu-375
 381-LeuThrAsnLysLeuLeuHisSerProThrGlnThrLeuAsnLysAlaGlyGluGluAspLysAspLeuVal
 -404

Hydrophilic Regions - Hopp-Woods

-848-

16-SerIleArgGluLysLeuAla-22
 30-GluAlaValArgAsnLeuAlaArgSerAsnAlaAla-41
 59-GlyAspSerGluGluIleIle-65
 75-ProIleGluGluIleArg-80
 87-MetMetGlnGluThrValArgHis-94
 115-GlnIleLysAspAlaValArgAlaAlaGlnGluGlnGluSerMetGly-130
 142-SerValAlaLysGluValArgThrAspThrAlaValGly-154
 210-ThrLeuAlaArgAlaGlnGluLeuCysAsp-219
 257-GlyMetValGluArgAlaLeuLysGlnArgGlnSer-268
 277-AlaValProArgAspIleGluAlaGluValGlyAspLeuAsn-290
 305-GlnSerGlyLysGluAlaArgGlnLysAlaAlaAlaAla-317
 321-LeuValSerGluLysValAlaGluPheValArg-331
 333-GlnGlnGlyArgGlnSer-338
 343-LysAlaLeuArgAspGluGlyGluLysAlaArgLysGlnValLeu-357
 368-AlaThrAlaGluGluValLeuGlu-375
 392-ThrLeuAsnLysAlaGlyGluGluAspLysAspLeuVal-404

g624**AMPHI Regions - AMPHI**

17-GlyIleIleGlyIlePheLeuPro-24
 45-ArgPheHisArgTrpLeuHis-51
 58-ProMetValHisAsn-62
 102-SerSerValPheCys-106

Antigenic Index - Jameson-Wolf

41-LysAlaSerProArgPheHisArgTrp-49
 51-HisArgHisArgTyrPheGlyProMet-59
 63-TrpGluGlnAsnGlyAlaValProArgLysAlaLys-74
 114-TrpHisArgProGluSer-119

Hydrophilic Regions - Hopp-Woods

67-GlyAlaValProArgLysAlaLys-74
 115-HisArgProGluSer-119

g625**AMPHI Regions - AMPHI**

14-ThrArgArgValArgSerTrpLeuAla-22
 24-SerSerGlyArgIleIleSerIleAlaAla-33
 64-LysMetProProGluMetValTyrArgAla-73
 78-MetLysGlyIleTyrSer-83

Antigenic Index - Jameson-Wolf

5-ArgLysMetLysLysMetThrMetCysThrArgArgValArg-18
 57-ProPheLysSerProGlnThrLysMetProPro-67
 73-AlaSerSerSerArgMetLysGly-80
 96-AspAlaProLysThrLysLeuAsnGlyMetArgLysSerAsnValGln-111

Hydrophilic Regions - Hopp-Woods

5-ArgLysMetLysLysMetThrMetCysThrArgArgValArg-18
 60-SerProGlnThrLysMetProPro-67
 74-SerSerSerArgMetLysGly-80
 96-AspAlaProLysThrLysLeuAsnGlyMetArgLysSerAsnValGln-111

g627**AMPHI Regions - AMPHI**

21-LeuGlnAsnLeuVal-25
 56-IleAlaGluValGlyLysLeuPheLeuGlyIlePheIleThrIlePheProValLeuSerIleLeuLysAlaGly
 1yGluAlaGlyAlaLeuGlyGlyValValSerLeuValHisAspThrAlaGlyHisPro-99

-849-

109-GlyIleLeuSerAlaPheLeuAspAsnAla-118
 153-PheMetGlyAlaLeuThrTyrIleGlyAsnAlaProAsnPheMetValLys-169
 180-ProThrPhePheArgTyr-185

Antigenic Index - Jameson-Wolf

3-GlyLeuTrpLysProGluHisProGlyPhe-12
 41-ThrProLysGlnValArgAlaGlyAsnGluPheAsnPhe-53
 94-AspThrAlaGlyHis-98
 128-AlaGlyGlyAspAla-132
 170-AlaIleAlaGluGlnArgGlyValPro-178

Hydrophilic Regions - Hopp-Woods

5-TrpLysProGluHisProGly-11
 43-LysGlnValArgAlaGlyAsn-49
 170-AlaIleAlaGluGlnArgGlyVal-177
g628

AMPHI Regions - AMPHI

10-CysGlyProProAsnSerCysValSerIleLeuAlaAlaPhe-23
 25-AspGlyThrSerAlaProAlaAla-32
 34-HisThrTrpIleLeuArgSer-40

Antigenic Index - Jameson-Wolf

6-LysProAlaGlyCysGlyProProAsnSer-15
 23-PheSerAspGlyThrSerAla-29
 40-SerValArgArgLeuAsnThrAsnArgProArgLeuLysSerSerAla-55
 77-MetAlaAsnGlySerAlaSerThr-84
 91-GlyArgValArgSerAlaValHisLysProAspIleArgLeuArgArg-106
 115-SerAlaSerGlyThr-119

Hydrophilic Regions - Hopp-Woods

40-SerValArgArgLeuAsnThrAsnArgProArgLeuLysSerSerAla-55
 91-GlyArgValArgSerAlaValHisLysProAspIleArgLeuArgArg-106
g629

AMPHI Regions - AMPHI

32-ArgTrpSerAspValPheSer-38
 48-IleSerArgLeuProArgThrPhe-55
 116-ValAlaAlaLeuIleGlyMetLeu-123
 145-XxxIlePheGlyGlyValValGluAlaValAlaThrPhe-157
 164-MetLeuGlnMetLeuGlyValTrpGlnGlnGlyAsp-175
 206-IleLeuGlyLeuGlyGlu-211
 253-ValProAsnIleValSerArgLeuMetGlyAspArgLeuArgGlnSer-268
 285-IleIleGlyArgMet-289
 300-ThrValPheGlyValLeu-305

Antigenic Index - Jameson-Wolf

38-SerLeuSerAspSerGln-43
 50-ArgLeuProArgThr-54
 77-AsnArgPheValGluProSerMetAlaGlyAlaGlyGln-89
 130-ArgArgLeuProProThrAla-136
 260-LeuMetGlyAspArgLeuArgGlnSer-268

Hydrophilic Regions - Hopp-Woods

260-LeuMetGlyAspArgLeuArgGln-267
g630

AMPHI Regions - AMPHI

-850-

30-ProAspLeuLeuGlnGln-35
 81-GlyGlyPheTrpGluValLeuPheAla-89
 135-PheGlyGlyThrGlyLysAsnPhe-142
 169-AlaValAspGlyTyrSerGlyAlaThrAlaLeuAlaGlnTrp-182
 187-AlaAspGlyLeuLysAsnAlaVal-194
 203-AspAlaPheIleGlyLysLeuProGlySerIleGlyGluValSer-217
 230-PheAlaArgIleAlaSerTrpArgIleIleAlaGlyValMet-243
 247-IleAlaMetSerSerLeuIleAsnPhe-255

Antigenic Index - Jameson-Wolf

37-IleAlaHisAspGlyAsnTyr-43
 53-MetSerProGluAla-57
 90-SerValArgLysHisGluIleAsnGlu-98
 133-GluValPheGlyGlyThrGlyLysAsnPheMet-143
 157-TyrProAlaAsnLeuSerGlyAspAla-165
 186-GlyAlaAspGlyLeuLys-191
 209-LeuProGlySerIleGly-214
 257-GlySerAspThrLysAla-262
 271-GlyThrTrpTrpLysAspAspTyrHisSerLeu-281

Hydrophilic Regions - Hopp-Woods

90-SerValArgLysHisGluIleAsn-97
 258-SerAspThrLysAla-262

g638**AMPHI Regions - AMPHI**

17-LeuAlaArgPheValAspAsnIle-24
 30-IleValAspIleValGlu-35
 46-AspIleValGluHisPheGluProPheGlyLys-56
 108-ProPheGlyAsnValValAlaAsp-115
 118-ArgAlaGlyArgValPro-123
 148-ArgIleGlyArgThrMetLysValTyrAlaGluArgIleIle-161
 198-GluArgTyrValArgArgValTyrGly-206
 212-LeuValProPheAspGlyCysGlyThrValGlyArg-223
 242-SerGlnPheAspArgIleAlaArgProGlyAlaGlyLysAsnPheGlyLysValValLeuArgGlyAsnVal-265
 304-TrpProAsnLysIleLysHisHis-311

Antigenic Index - Jameson-Wolf

13-GlyLysAsnAlaLeu-17
 43-AlaAspGlyAspIle-47
 52-GluProPheGlyLys-56
 81-ValAspGlyGluThrGlnVal-87
 99-AlaGlyIleGlyLysAsnAlaVal-106

113-ValAlaAspAspLeuArgAlaGlyArgValProAsnGlyAsn-126
 148-ArgIleGlyArgThrMet-153
 169-GlnGlyAlaArgGlyGlyPhe-175
 188-HisThrGlyThrGlyAsnGlyGlnValAlaGluArgTyrValArg-202
 216-AspGlyCysGlyThrValGlyArgProPheAsnArgAsnArgPheValAsp-232
 240-AlaGlySerGlnPheAspArgIleAlaArgProGlyAlaGlyLysAsnPheGly-257
 260-ValLeuArgGlyAsnValAspAspGlyCysArgCysArgLeuLysAsnAlaAlaGlyGlyLysTyrGlnHis-283

285-LeuGlnProTyrThrGluArgGlyCys-293
 304-TrpProAsnLysIleLysHisHisSerAsn-313

-851-

319-AlaLysProProGluThrValArg-326

Hydrophilic Regions - Hopp-Woods

43-AlaAspGlyAspIle-47

81-ValAspGlyGluThrGlnVal-87

113-ValAlaAspAspLeuArgAlaGlyArgValProAsn-124

148-ArgIleGlyArgThrMet-153

195-GlnValAlaGluArgTyrValArg-202

243-GlnPheAspArgIleAlaArgProGlyAlaGlyLysAsnPheGly-257

263-GlyAsnValAspAspGlyCysArgCysArgLeuLysAsnAlaAla-277

288-TyrThrGluArgGlyCys-293

320-LysProProGluThrValArg-326

g639-1**AMPHI Regions - AMPHI**

95-TyrLysAsnAsnArg-99

137-LeuLysValPheAspAsnIle-143

156-ValAsnTyrSerAspIleHisAspAsnIleIleAsnLysAla-169

268-AlaProValSerArg-272

289-GlnPheProAlaValLeuProGly-296

Antigenic Index - Jameson-Wolf

25-AsnIlePheAspAsnSerPhe-31

41-AlaMetValArgGluAsnLysIleValGly-50

52-AlaThrLeuArgValAsnGluArgGlyAsnGly-62

75-GlyAsnAspIleSerLysGlyArgAspGlyIlePheSerAsnThrSerThrHisAsnThrTyrLysAsnAsnA
rgPheSerAsp-102

111-TyrThrAsnAspSerGluValSerGly-119

135-GluArgLeuLysVal-139

145-ValGlySerArgAspGlyIle-151

159-SerAspIleHisAspAsnIleIleAsnLysAlaGlyLys-171

178-AlaAsnTyrAspLysLeuSerAlaAsnHis-187

202-GluGlyThrSerLeuHisAspAsnSer-210

212-IleAsnAsnGlySerGlnValLysTyrValSer-222

227-AspTrpSerGluGlyGlyHisGlyAsnTyrTrpSerAspAsnSerProPhe-243

245-LeuAsnGlyAspGlyPheGlyAspSerAlaTyrArgProAspGlyIleIle-261

296-GlyGlyValValAspSerLysProLeuMetLysProTyrAlaProLysIleGlnThr-314

317-GlnAlaMetLysAspGluLeuLeuLysGluAlaGluThrArgGlnSerGluArgGlyArgAlaGluAsnGly
SerLeuAsn-343**Hydrophilic Regions - Hopp-Woods**

41-AlaMetValArgGluAsnLysIleValGly-50

52-AlaThrLeuArgValAsnGluArgGlyAsn-61

77-AspIleSerLysGlyArgAspGlyIle-85

95-TyrLysAsnAsnArgPheSerAsp-102

113-AsnAspSerGluValSerGly-119

135-GluArgLeuLysVal-139

146-GlySerArgAspGlyIle-151

179-AsnTyrAspLysLeuSer-184

253-SerAlaTyrArgProAspGlyIleIle-261

298-ValValAspSerLysProLeuMet-305

317-GlnAlaMetLysAspGluLeuLeuLysGluAlaGluThrArgGlnSerGluArgGlyArgAlaGluAsnGly
Ser-341**g640****AMPHI Regions - AMPHI**

-852-

6-SerIleLeuLysSerIleGly-12
 22-SerIleArgArgMetSer-27
 47-LeuProAlaTyrAlaGluArgLeuProAspPheLeuAlaLysIleGlnPro-63
 72-ArgTyrGlyLysPro-76
 109-SerLysProIleAspThrLeuMetAla-117
 127-AlaLysLeuValAspHisHis-133
 145-ArgValAspLysPheIleAsp-151
 155-GlyLeuAsnPheIleLysAsnProProThr-164
 187-IleGlnArgSerTyrLysValIle-194
 209-AlaSerAlaSerAsp-213
 224-ArgProArgArgMetAlaAsnProAsp-232
 255-LeuAspGlnIleAsnLysLeuPheGluLysGly-265
 267-LysAlaGlyValAlaAspHisAlaGluGlnGly-277
 281-AspThrPheIleAspLeuTyrVal-288
 346-MetIleGlnGlyGluAsnSerPhe-353
 359-GlnHisGluArgValValGluLeuSerAlaAlaAspAlaProArg-373

Antigenic Index - Jameson-Wolf

24-ArgArgMetSerAlaPheArgAlaArgIle-33
 50-TyrAlaGluArgLeuProAspPhe-57
 59-AlaLysIleGlnProSerGluIlePheProGlyAlaAspArgTyrGlyLysProGluGlyLysProMetVal-82
 84-ArgValTyrLysGlyAspGluGlnLeu-92
 101-AlaValAsnThrArgGlyTyrSerSerLysProIleAsp-113
 128-LysLeuValAspHisHisGlu-134
 142-ProGlnSerArgValAspLysPheIleAsp-151
 159-IleLysAsnProProThrProSerValAlaProGlyAsp-171
 184-AsnAspSerIleGlnArgSerTyrLys-192
 196-AsnGlnTyrArgLeuGlySerAspLysAlaLeuGln-207
 209-AlaSerAlaSerAspValArgGluAlaAlaProAlaSerGluThrArgProArgArgMetAlaAsnProAspLysGlnAspIle-236
 241-GluLeuLeuLysGlnLysAla-247
 257-GlnIleAsnLysLeuPheGluLysGlyGlyLysAlaGlyVal-270
 272-AspHisAlaGluGlnGlyAspProAspAspThrPheIle-284
 294-ProSerIleGlyLysSerLeuLeuGlyGluAspGlyTrp-306
 309-LeuGlnLysArgLeuLysProGlyGln-317
 322-ValAlaGlyGluGlyArgTyrSerTrpLysGlySerGlyTyrValArg-337
 342-AspArgIleGluMetIleGlnGlyGluAsnSerPheArgPheThrAspAlaGlnHisGluArgValValGlu-365
 367-SerAlaAlaAspAlaProArgPheLysGlu-376
 382-IleProGluGlyValAla-387
 389-AspGlyAlaGluProTrpArg-395

Hydrophilic Regions - Hopp-Woods

24-ArgArgMetSerAlaPheArgAlaArgIle-33
 50-TyrAlaGluArgLeuPro-55
 68-ProGlyAlaAspArgTyrGlyLysProGluGlyLysProMetVal-82
 85-ValTyrLysGlyAspGluGlnLeu-92
 128-LysLeuValAspHisHisGlu-134
 143-GlnSerArgValAspLysPheIleAsp-151
 186-SerIleGlnArgSerTyrLys-192
 200-LeuGlySerAspLysAlaLeuGln-207
 210-SerAlaSerAspValArgGluAlaAlaProAlaSerGluThrArgProArgArgMetAlaAsnProAspLysGlnAsp-235
 241-GluLeuLeuLysGlnLysAla-247

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257-GlnIleAsnLysLeuPheGluLysGlyGlyLysAlaGlyVal-270
 272-AspHisAlaGluGlnGlyAspProAspAspThrPhe-283
 309-LeuGlnLysArgLeuLysProGlyGln-317
 324-GlyGluGlyArgTyrSerTrp-330
 342-AspArgIleGluMetIleGlnGly-349
 351-AsnSerPheArgPheThrAspAlaGlnHisGluArgValValGlu-365
 367-SerAlaAlaAspAlaProArgPheLysGlu-376
g642
AMPHI Regions - AMPHI
 22-LysSerAlaCysArg-26
 28-IleCysProLeuSerAlaIleSerAlaVal-37
 63-SerGlyAspAspPhe-67
 139-IleLysHisIleValArgAlaPhe-146
 157-AspIleAlaGlyTrpValSerAlaPheLysThrLeuArgAlaGlnGluPheLeuGlnHisLeuArgGlyGlyVal-181
 184-PheArgGlyGluGly-188
 190-AspAspValArgLeu-194
 209-AlaAspValAlaValLysAspPheGlyAsnLeuMetAlaAlaLeuAsp-224
 241-ValGlnValValLysAspValPheHisAsnAlaValArgHisAlaAspGlnLeuGln-259
 293-ValAspGlyValThrAspGlyAla-300
 319-GlnValAspAspPheGlyGluPheAlaValPhe-329
 348-PheArgGlyValAspVal-353
 403-GluLeuLeuGlnArg-407
 410-HisGlnArgAlaPheAspAlaGlyThr-418

Antigenic Index - Jameson-Wolf

1-MetArgTyrProPro-5
 16-CysLeuLeuArgArgProLysSerAlaCysArgArgIleCysPro-30
 45-ValGlnGlnGluGlyCysGly-51
 58-TyrGluAspLysLysSerGlyAspAspPheAlaAspGluAspPheLeu-73
 75-GlyAlaGlyValGly-79
 98-GlyAsnGlyGlyLysAlaAspIle-105
 126-PheGlyGlyGlyAlaAspGluLeu-133
 146-PheLysAsnArgGluGlyAlaAspIleAspGlyAspIle-158
 166-LysThrLeuArgAla-170
 184-PheArgGlyGluGlyPheAspAspValArgLeu-194
 198-MetGlyAspGlyArgAspGlyArgAsnGlyMet-208
 230-IleAspGluSerAspIleValAla-237
 253-ArgHisAlaAspGlnLeuGlnAlaAlaAlaAspLysAspValLeuGluArgAlaGlnThrGlySerValAlaProGlyGlu-279
 281-HisHisGlyGlyCysArg-286
 288-PheGlyIleAspAlaValAspGlyValThrAspGly-299
 313-CysPheGlyAspGluGlnGlnValAspAspPheGly-324
 332-PheGlyGlyAsnGluGluValAla-340
 369-CysAsnArgArgAlaGlyGlyPhe-376
 412-ArgAlaPheAspAlaGlyThrGlnArgAsnGly-422
 425-ValMetProArgAsnPro-430

Hydrophilic Regions - Hopp-Woods

16-CysLeuLeuArgArgProLysSerAlaCysArgArgIleCys-29
 58-TyrGluAspLysLysSerGlyAspAspPheAlaAspGluAspPheLeu-73
 99-AsnGlyGlyLysAlaAspIle-105
 129-GlyAlaAspGluLeu-133
 146-PheLysAsnArgGluGlyAlaAspIleAspGlyAspIle-158
 166-LysThrLeuArgAla-170

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187-GluGlyPheAspAspValArgLeu-194
 199-GlyAspGlyArgAspGlyArgAsnGlyMet-208
 230-IleAspGluSerAspIleValAla-237
 253-ArgHisAlaAspGlnLeuGlnAlaAlaAspLysAspValLeuGluArgAlaGlnThr-272
 292-AlaValAspGlyValThrAspGly-299
 313-CysPheGlyAspGluGlnGlnValAspAspPheGly-324
 334-GlyAsnGluGluGluValAla-340
 369-CysAsnArgArgAlaGly-374
 417-GlyThrGlnArgAsnGly-422

g644**AMPHI Regions - AMPHI**

26-GlyArgArgPheAspArgPro-32
 55-MetAspThrAlaAlaPheLeuLysHisIleGluSerAlaPheProArgIlePheSerAspGlyIleAspLeuMetArgTyrLeu-82
 111-GlnPheGluIleGlnGluValLeuArgIleAlaGly-122
 141-GlnProLeuGlnGluPheGlyGly-148
 181-ArgGluMetGlnSerCysTyrGluTyr-189
 202-TyrTrpGlnGlyAsn-206
 224-LeuAlaLysValIleAspLeuLeu-231
 267-ValMetLysLeuSerArg-272
 278-LeuArgAlaPheGlnAsn-283
 295-MetThrHisGlyIleMetGluTyrIleLeuAspAsnLeuAsnArgTyrValArgAsn-313
 333-GluIleLeuTyrArgTyrValCysHis-341
 343-ValSerProValAlaProValAlaHis-351
 356-AlaAsnIleValLysThrLeuAla-363
 372-GlnMetLeuGlnLys-376
 399-PheThrIlePheGluGlyProAsn-406
 408-MetLeuTyrAlaGluIleTyrAspGlnPheValArgAla-420
 456-LeuProGluAspIleArgSerPhe-463
 481-GlyLysIleIleAlaArgLeu-487

Antigenic Index - Jameson-Wolf

1-MetProSerGluArgProAlaAspCysCys-10
 22-ThrLeuAsnCysGlyArgArgPheAspArgProProIleAsnGlyAsnArgGlnArgLysProMetIleHisThrGluProSerAlaGlnProSerThrMetAsp-56
 70-ArgIlePheSerAspGlyIleAspLeu-78
 82-LeuProGluAspLysTrpLeu-88
 100-LeuAspLysLysHisGlyGlyArgLysGlySerGln-111
 160-PheLysGlyGluSerArgArgLeuGlyValThrGluProGluThrSerGly-176
 178-AlaIleAlaArgGluMetGlnSerCysTyrGluTyrThrAspGluGlnThr-194
 202-TyrTrpGlnGlyAsnSerGlnSerAspPhe-211
 216-AlaLysGluArgLysAsnGlyLysLeuAlaLys-226
 235-LysThrTyrIleArg-239
 241-GluThrLeuAlaSerGluGlyLeuArg-249
 254-AlaValAsnArgIleAspAlaGluMet-262
 269-LysLeuSerArgGlyAspAlaAlaGly-277
 306-AsnLeuAsnArgTyrValArgAsnAspIleArgPheValAspTyrGluArgArgGluIleGlnArgArgHisGlnVal-331
 381-LysGlyPheGluArgGlyHisProAlaGly-390
 403-GluGlyProAsnAspMetLeu-409
 420-AlaThrAlaGluGluLysGluAlaGlyIleLysLeuAspLysAsnGlnThr-436
 441-ValGlnThrAspValArg-446
 449-AlaValAlaArgAspTyrAlaLeu-456
 458-GluAspIleArgSerPheLeu-464
 492-GlnGluGluHisGluAspThrThr-499

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505-AspIleArgLysAspIleLeuAspCysArgTyrCysGly-517

Hydrophilic Regions - Hopp-Woods

1-MetProSerGluArgProAlaAsp-8
 25-CysGlyArgArgPheAspArgProProIleAsnGlyAsnArgGlnArgLysProMetIle-44
 72-PheSerAspGlyIleAsp-77
 82-LeuProGluAspLysTrpLeu-88
 100-LeuAspLysLysHisGlyGlyArgLysGlySerGln-111
 160-PheLysGlyGluSerArgArgLeuGlyValThrGluProGluThrSerGly-176
 178-AlaIleAlaArgGluMetGlnSer-185
 188-GluTyrThrAspGluGlnThr-194
 216-AlaLysGluArgLysAsnGlyLysLeuAlaLys-226
 254-AlaValAsnArgIleAspAlaGluMet-262
 269-LysLeuSerArgGlyAspAlaAlaGly-277
 306-AsnLeuAsnArgTyrValArgAsnAspIleArgPheValAspTyrGluArgArgGluIleGlnArgArgHis
 GlnVal-331
 381-LysGlyPheGluArgGlyHisPro-388
 420-AlaThrAlaGluGluLysGluAlaGlyIleLysLeuAspLysAsnGlnThr-436
 441-ValGlnThrAspValArg-446
 458-GluAspIleArgSerPheLeu-464
 492-GlnGluGluHisGluAspThrThr-499
 505-AspIleArgLysAspIleLeuAsp-512
g645

AMPHI Regions - AMPHI

87-ArgThrLeuProSerLeuAsnGlyLeuThrLys-97
 149-ArgThrProLysArgCysSerSerSerIle-158
 162-ProLysPheLeuAsnPheMetSerSerCysThrAsnLeuCys-175
 211-SerAlaLysArgSer-215
 250-SerValLeuProLysProThrSerProHisThrSerArg-262

Antigenic Index - Jameson-Wolf

24-AsnLeuCysCysLysLysSerArgMetThrCysSerSerSerArgSerArgSerCysProCys-44
 47-ProIleArgAlaSerGlySerArgValSerSerArgSerArgIle-61
 68-SerLeuCysArgLysAsnThrCysProProArgLeuSerSerArgAsnThrAlaSerArgThrLeuProSer-
 91
 99-PheThrAlaArgArgArgLeuGly-106
 110-IleSerGluLysSerArgArgProSerSerAlaMetLeuArg-123
 137-ThrLeuAlaArgArgArgLeuSerCysSerPheCysArgThrProLysArgCysSerSer-156
 158-IleIleAsnLysProLysPheLeuAsn-166
 168-MetSerSerCysThrAsn-173
 199-LeuLysArgGluArgLeuAla-205
 208-ThrGlyLysSerAlaLysArgSerAlaLys-217
 222-CysSerThrArgSerValValGlyAla-230
 243-AsnAlaAlaArgArgAlaThr-249
 251-ValLeuProLysProThrSerProHisThrSerArg-262

Hydrophilic Regions - Hopp-Woods

26-CysCysLysLysSerArgMetThrCysSerSerSerArgSerArgSerCysPro-43
 48-IleArgAlaSerGlySerArgValSerSerArgSerArgIle-61
 69-LeuCysArgLysAsnThrCysProProArgLeuSerSerArgAsnThrAlaSerArgThr-88
 99-PheThrAlaArgArgArgLeuGly-106
 110-IleSerGluLysSerArgArgProSer-118
 137-ThrLeuAlaArgArgArgLeuSer-144
 149-ArgThrProLysArgCysSer-155

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158-IleIleAsnLysProLys-163
199-LeuLysArgGluArgLeuAla-205
210-LysSerAlaLysArgSerAlaLys-217
243-AsnAlaAlaArgArgAlaThr-249

g647**AMPHI Regions** - AMPHI

38-GlyLysValCysArgCysPheGluGlnVal-47
69-ThrValPheArgGlnIleValGlyValVal-78

Antigenic Index - Jameson-Wolf

26-GlyLeuValLysGluArgAlaArg-33
39-LysValCysArgCysPhe-44
54-GlyThrValGlyGlnThrGluArgGlyThr-63
78-ValAspAspThrAspAlaGluArgThrAlaValHisSerArgGlyThrArgGlyPhe-96

Hydrophilic Regions - Hopp-Woods

26-GlyLeuValLysGluArgAlaArg-33
40-ValCysArgCysPhe-44
56-ValGlyGlnThrGluArgGlyThr-63
78-ValAspAspThrAspAlaGluArgThrAlaValHisSerArgGlyThrArgGly-95

g648**AMPHI Regions** - AMPHI

7-ArgIleGluArgAlaValArg-13
15-AlaValIleAspValLeuAsn-21
94-AlaValAspLeuHisAlaIleIleLysLeuAlaAspThr-106
127-GlnGlyValGluGlnGly-132
148-ArgLeuLysHisLeuLysGluGlyAsnAla-157
182-AlaArgAlaLeuGlyAsnValPheHis-190
194-GlySerGlyIleAspGlyIleGlnThrIleValAlaPheAsnGlnHisThr-210

Antigenic Index - Jameson-Wolf

1-MetAsnArgArgAsnAlaArgIleGluArgAlaValArg-13
24-AlaProGlyProGly-28
30-LeuLeuHisGlnArgGlyLysGlnValGlySerArgAsnAspThrLeuAla-46
65-GlyLysLysArgPheValGlnProArgAsnLeuValGlyArgLysGlnArgAsn-82
123-PheAsnMetProGlnGlyValGluGlnGlyCysArg-134
141-LeuArgThrArgPheAspArgArgLeuLysHisLeuLysGluGlyAsnAla-157
170-ValGlnProAlaAspThrSerGlyIleAspAlaAspAlaArgAla-184
191-AsnArgAlaGlySerGlyIleAspGly-199

Hydrophilic Regions - Hopp-Woods

1-MetAsnArgArgAsnAlaArgIleGluArgAlaValArg-13
33-GlnArgGlyLysGlnValGlySerArgAsnAspThr-44
65-GlyLysLysArgPheValGln-71
74-AsnLeuValGlyArgLysGlnArgAsn-82
127-GlnGlyValGluGlnGlyCysArg-134
141-LeuArgThrArgPheAspArgArgLeuLysHisLeuLysGluGlyAsnAla-157
172-ProAlaAspThrSerGlyIleAspAlaAspAlaArgAla-184

g649**AMPHI Regions** - AMPHI

6-LeuSerAlaIleLeuGlyLeuVal-13
24-ProAlaHisArgHisThrLysHisIleSerLysAla-35
57-SerGlnGlyAsnVal-61
63-GluLeuArgGluAsnLys-68
71-ArgLysAlaPheArgThrLeuPro-78

Antigenic Index - Jameson-Wolf

20-GlyThrSerGluProAlaHisArgHisThrLysHisIleSerLysAlaAsnLys-37
 40-LeuHisProGluCysArgLysTyrLeuGluArgArgAlaAla-53
 56-ArgSerGlnGlyAsnValGlnGluLeuArgGluAsnLysLysAlaArgLysAlaPheArg-75
 80-AlaGluGlnLysIleGlnCys-86
 92-AlaPheAspAspPheAspGlyGlyArgPheArgArg-103

Hydrophilic Regions - Hopp-Woods

20-GlyThrSerGluProAlaHisArgHisThrLysHisIleSerLysAlaAsnLys-37
 42-ProGluCysArgLysTyrLeuGluArgArgAlaAla-53
 59-GlyAsnValGlnGluLeuArgGluAsnLysLysAlaArgLysAlaPheArg-75
 80-AlaGluGlnLysIleGlnCys-86
 92-AlaPheAspAspPheAspGlyGlyArgPheArgArg-103

g650

AMPHI Regions - AMPHI

15-SerValCysProGly-19
 57-LeuTrpAspGluLeuArgGlnGly-64
 72-ProGluLeuValArgArgHisGlu-79
 89-PheAspArgValValAsn-94
 137-SerGlyLeuTrpGln-141
 173-AsnTyrLeuGlnTyrLeuTyrGlyLeuPheGlyAspTrpPro-186
 198-AsnValGlyArgAlaValAsnArgAlaArg-207
 218-LeuArgMetProAsnGluThr-224

260-ValGluProGlyArgProLeu-266
 269-GluAlaIleAlaArgLeuAlaGlyIleThrGlnSer-280
 314-SerAsnTyrLeuAsnAlaAlaProAsp-322
 341-IleSerThrAlaThrGlyMet-347

349-IleAlaAspIleLysArgLeuAsnAsnLeu-358

433-ValArgThrGlyThrArgSer-439

Antigenic Index - Jameson-Wolf

1-MetSerLysLeuLys-5
 24-GlnAsnThrSerSerHis-29
 38-LeuAsnSerSerIleLeuAspLeuProProThrLysGlnTyrPhe-52

54-SerGlySerLeuTrpAspGluLeuArgGlnGlyPheArgMetGlyGluValAsnProGluLeuValArgArgHisGluSerLysPheIleAla-84
 87-SerTyrPheAspArgValValAsnArgSerArgPro-98
 105-AsnGluValLysLysArgAsnMetProAla-114
 128-ThrLysAlaLysSerHisValGlyAlaSerGly-138
 145-AlaThrGlyArgHisTyrGlyLeuGluLysThrProValTyrAspGlyArgHisAspVal-164

192-TyrAsnTrpGlyGluGlyAsnValGlyArgAlaValAsnArgAlaArgAspGlnGlyLeuGluProThrTyrGluAsnLeuArgMetProAsnGluThrArgAsnTyrVal-228
 247-AsnIleSerAspIleAspAsnLysProTyr-256
 259-AlaValGluProGlyArgProLeuAspAsnGluAlaIleAla-272
 294-PheIleProLysAsnLysArgLysLeu-302
 318-AsnAlaAlaProAspSer-323
 332-ProAlaAlaLysThrSerLeuSerAspIleSerThr-343
 350-AlaAspIleLysArgLeuAsnAsnLeuAsnGly-360

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370-LeuValAlaLysAsnGlyLysThrLeu-378
 388-IleAspIleAspAsnThrProAspThrTyrArgSerAsnMetProAla-403
 431-GluThrValArgThrGlyThrArgSerProCysProHisTyrArgThrArgProCysAspSerArgSerAla
 ThrSerAsnArgLysThrAspCysHisAla-464

Hydrophilic Regions - Hopp-Woods

1-MetSerLysLeuLys-5
 59-AspGluLeuArgGlnGlyPheArgMetGlyGluValAsnProGluLeuValArgArgHisGluSerLysPheI
 leAla-84
 92-ValValAsnArgSerArgPro-98
 105-AsnGluValLysLysArgAsnMetProAla-114
 128-ThrLysAlaLysSerHisVal-134
 150-TyrGlyLeuGluLysThrProValTyrAspGlyArgHisAspVal-164
 202-AlaValAsnArgAlaArgAspGlnGlyLeu-211
 213-ProThrTyrGluAsnLeuArgMetProAsnGluThrArgAsnTyrVal-228
 249-SerAspIleAspAsn-253

261-GluProGlyArgProLeuAspAsnGluAlaIleAla-272
 296-ProLysAsnLysArgLysLeu-302
 334-AlaLysThrSerLeu-338
 350-AlaAspIleLysArgLeuAsn-356
 373-LysAsnGlyLysThr-377
 389-AspIleAspAsnThrProAspThrTyrArg-398
 431-GluThrValArgThrGlyThrArgSerPro-440
 444-TyrArgThrArgProCysAspSerArgSerAlaThrSerAsnArgLysThrAspCys-462
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AMPHI Regions - AMPHI

6-AspIlePheAlaArg-10
 52-ArgAspGlyAspLys-56
 62-LysGlyValLeuLysAlaValGluHisValAsnAsnGlnIleAlaGlnAla-78
 130-LeuTyrArgTyrLeuGlyGlyAlaGlyPro-139
 149-ValIleAsnGlyGly-153
 173-LysSerPheArgGluAlaLeuArgCys-181
 184-GluIlePheHisAlaLeuLysLys-191
 266-AlaGluPheAlaGluTyrLeuGluGlyLeuValAsn-277
 299-LeuThrGluLysLeu-303
 323-AlaGluGlyIleGluLysGlyVal-330
 338-ValAsnGlnIleGlyThrLeuSerGluThrLeuLysAlaValAspLeuAlaLysCysAsnArgTyrAlaSer
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 377-AspLeuAlaValAla-381
 391-SerLeuSerArgSerAspArgMetAlaLysTyrAsnGlnLeuLeuArgIleGluGlu-409

Antigenic Index - Jameson-Wolf

11-GluIleLeuAspSerArgGlyAsnProThrValGlu-22
 36-AlaValProSerGlyAlaSerThrGlyGlnLysGluAlaLeuGluLeuArgAspGlyAspLysSerArgTyrS
 erGlyLysGlyValLeuLysAlaValGluHisValAsn-72
 83-AspAlaAsnGluGlnSerTyr-89
 97-LeuAspGlyThrGluAsnLysGlyAsnLeuGly-107
 121-AlaAlaAlaGluAspSerGlyLeuPro-129
 135-GlyGlyAlaGlyProMet-140
 151-AsnGlyGlyGluHisAlaAsnAsnSer-159
 173-LysSerPheArgGluAlaLeuArgCysGlyAla-183
 190-LysLysLeuCysAspSerLysGlyPheProThrThrValGlyAspGluGlyGlyPhe-208
 211-AsnLeuAsnSerHisLysGluAlaLeu-219

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243-CysAlaSerSerGluPheTyrLysAspGlyLysTyrHisLeuGluAlaGluGlyArgSerTyrThrAsn-265
 283-SerIleGluAspGlyMetAspGluAsnAspTrpGluGly-295
 299-LeuThrGluLysLeuGlyLysLysValGlnLeuValGlyAspAspLeu-314
 318-AsnProLysIleLeuAlaGluGlyIleGluLysGlyVal-330
 352-AspLeuAlaLysCysAsnArgTyr-359
 363-MetSerHisArgSerGlyGluThrGluAspSerThrIle-375
 388-LysThrGlySerLeuSerArgSerAspArgMetAlaLys-400
 405-LeuArgIleGluGluGluLeuAlaGlu-413

Hydrophilic Regions - Hopp-Woods

11-GluIleLeuAspSerArgGlyAsnProThrValGlu-22
 43-ThrGlyGlnLysGluAlaLeuGluLeuArgAspGlyAspLysSerArgTyrSerGly-61
 63-GlyValLeuLysAlaValGlu-69
 97-LeuAspGlyThrGluAsnLysGlyAsnLeu-106
 121-AlaAlaAlaGluAspSerGly-127
 153-GlyGluHisAlaAsn-157
 173-LysSerPheArgGluAlaLeuArgCysGlyAla-183
 190-LysLysLeuCysAspSerLysGly-197
 202-ValGlyAspGluGlyGlyPhe-208
 213-AsnSerHisLysGluAlaLeu-219
 247-GluPheTyrLysAspGlyLysTyrHisLeuGluAlaGluGlyArgSerTyrThr-264
 283-SerIleGluAspGlyMetAspGluAsnAspTrpGluGly-295
 299-LeuThrGluLysLeuGlyLysLysValGlnLeuValGly-311
 321-IleLeuAlaGluGlyIleGluLysGlyVal-330
 352-AspLeuAlaLysCysAsnArg-358
 364-SerHisArgSerGlyGluThrGluAspSerThrIle-375
 391-SerLeuSerArgSerAspArgMetAlaLys-400
 405-LeuArgIleGluGluGluLeuAlaGlu-413

g653**AMPHI Regions - AMPHI**

60-ThrMetArgLysProArgLeuThr-67
 75-AlaLeuIlePheThrCysPheAla-82
 96-ThrAlaLeuAlaAlaIleThrCysIle-104
 111-LeuGlyLysMetGluGluPheSer-118

Antigenic Index - Jameson-Wolf

4-GluProMetArgMetProGlu-10
 14-GlyPheSerGlySer-18
 45-GlyCysArgSerThrArgLysThr-52
 56-ValArgProGluThrMetArgLysProArgLeuThrAsnSerSerAla-71
 86-AsnSerGlyCysAsnAla-91
 103-CysIleAsnGlyProProCysArgLeuGlyLysMetGluGlu-116
 125-SerArgHisLysIleThrProProArgGlyProArgArgVal-138
 145-ThrLysSerGlnAsnGlyThrGly-152
 156-SerProProAlaThrSerProAla-163

Hydrophilic Regions - Hopp-Woods

4-GluProMetArgMetProGlu-10
 47-ArgSerThrArgLysThr-52
 57-ArgProGluThrMetArgLysProArgLeuThrAsn-68
 107-ProProCysArgLeuGlyLysMetGluGlu-116
 126-ArgHisLysIleThrProProArgGlyProArg-136

g656**AMPHI Regions - AMPHI**

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6-GlySerIleSerSerMetIleSerIleAlaArgThrPheGlyAlaProGlu-22
 42-LysGlnProSerThr-46
 92-LeuAlaSerLeuAsnLysSerCys-99

Antigenic Index - Jameson-Wolf

4-PheSerGlySerIle-8
 19-GlyAlaProGluSerValProAlaGlyLysValAlaAla-31
 40-SerPheLysGlnProSerThrLeuGlu-48
 74-ArgProThrSerLeuArgProLysSerIle-83
 94-SerLeuAsnLysSerCysSerLeuAlaArgSerSerAlaGlyValLeuProArgArgArgValProAla-116
 120-ThrMetThrSerSerArgSerArgArgThrArgIleSerGlyGluGluProThrMetTrpLysSerProLys
 Ser-144

Hydrophilic Regions - Hopp-Woods

76-ThrSerLeuArgProLysSer-82
 99-CysSerLeuAlaArgSerSer-105
 109-LeuProArgArgArgValProAla-116
 121-MetThrSerSerArgSerArgArgThrArgIleSerGlyGluGluProThrMet-138
 140-LysSerProLysSer-144

g657**AMPHI Regions - AMPHI**

20-LeuGlyArgMetPheAla-25
 65-AspGluLeuAlaLysCysAlaAla-72
 83-AspAlaMetArgSerLeuAlaLysHisThrAsn-93
 128-CysLysAlaGluAspIleThrGluAlaSer-137
 139-GlnPheLeuProGlyIleLeuLysThr-147
 161-LysThrLeuAspGluLeuLysAlaAla-169
 178-CysValLeuGluLysMetValAsp-185
 205-PheAspProAlaGluAsnIle-211
 232-GlnGlnAlaArgGlnThrAlaGlnArgLeuAlaAspGluLeuAspTyrValGlyValLeu-251

Antigenic Index - Jameson-Wolf

37-ValLeuAspProAspProAsnAlaPro-45
 57-ProPheAspAspArgAlaAlaLeuAspGluLeuAlaLys-69
 75-ThrGluPheGluAsnValAsnAlaAspAlaMetArgSerLeuAlaLysHisThrAsnValSerProSerGlyA
 spCysVal-101
 104-AlaGlnAsnArgIleGlnGluLysAlaTrpIle-114
 128-CysLysAlaGluAspIleThrGluAla-136
 150-LeuGlyTyrAspGlyLysGlyGlnIleArgValLysThrLeuAspGluLeuLysAlaAlaPhe-170
 182-LysMetValAspLeuArgGlyGluIle-190
 196-ArgLeuAsnAspGluAsnValGln-203
 205-PheAspProAlaGluAsnIleHisGluAsnGly-215
 230-ValGlnGlnAlaArgGlnThrAlaGlnArgLeuAlaAspGluLeuAsp-246
 268-GluThrAlaProArgThrHisAsnSerGlyHisHis-279
 288-GlnPheGlnGlnGln-292
 300-ProProAlaAspThrLysLeuLeuSer-308
 319-ValTrpGlnGluAspGlyGlyGluProAspTrp-329
 332-LeuGlnSerArgProAsnAla-338
 344-GlyLysLysThrAlaGlnLysGlyArgLysMetGly-355
 361-ThrThrAspSerAspThrAlaPheGlnGluAlaLysLysLeuHis-375

Hydrophilic Regions - Hopp-Woods

37-ValLeuAspProAspProAsnAlaPro-45
 57-ProPheAspAspArgAlaAlaLeuAspGluLeuAlaLys-69
 75-ThrGluPheGluAsnValAsn-81

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63-AspAlaMetArgSerLeuAlaLys-90
 128-CysLysAlaGluAspIleThrGluAla-136
 152-TyrAspGlyLysGlyGlnIleArgValLysThrLeuAspGluLeuLysAlaAlaPhe-170
 182-LysMetValAspLeuArgGlyGluIle-190
 196-ArgLeuAsnAspGluAsnValGln-203
 206-AspProAlaGluAsnIleHis-212
 230-ValGlnGlnGlnAlaArgGlnThrAlaGlnArgLeuAlaAspGluLeuAsp-246
 269-ThrAlaProArgThrHisAsn-275
 301-ProAlaAspThrLysLeu-306
 320-TrpGlnGluAspGlyGlyGluProAsp-328
 344-GlyLysLysThrAlaGlnLysGlyArgLysMetGly-355
 362-ThrAspSerAspThrAlaPheGlnGluAlaLysLysLeuHis-375

g658**AMPHI Regions - AMPHI**

28-ArgGlnTyrAlaAspIleIleGlnPheValArgGlnAlaLeuArgArgLeuProArgLeuLeuLeu-49
 68-ValAspValPheGlyGlyValGluGly-76
 93-AlaGlnValHisHisPhePheGlnAsnAlaIleHisAla-105
 139-GlnLysLeuArgAlaCysPheSerAsnValPheGly-150
 155-LeuIleArgArgGlyLeuGln-161

Antigenic Index - Jameson-Wolf

6-ValArgAlaArgGlyGlyPheIleAsp-14
 21-AlaAspAsnLysHisPhe-26
 40-AlaLeuArgArgLeuPro-45
 53-ThrGlnProArgGlyAspAspGlyIleSerGlnAspAlaVal-66
 86-TyrAspHisGlyAsn-90
 107-ValPheGlyLysArgGlyPheGluPhe-115
 130-GlnArgSerArgPheGlnAspAlaGlyGlnLysLeuArgAla-143
 154-ArgLeuIleArgArgGlyLeuGln-161
 193-ArgAlaHisArgValGly-198
 202-PheLysPheGlyArgAsnArgArgAla-210
 216-GlnArgGlyProValValLysArgArgAlaGln-226
 230-GlyLysPheArgArgArgArgIleArgValGlyIleGluAsnGly-244
 251-PheSerGlyAsnGlyLysHisSerAla-259

Hydrophilic Regions - Hopp-Woods

6-ValArgAlaArgGlyGlyPheIle-13
 21-AlaAspAsnLysHisPhe-26
 40-AlaLeuArgArgLeuPro-45
 53-ThrGlnProArgGlyAspAspGlyIleSer-62
 130-GlnArgSerArgPheGlnAspAlaGlyGlnLysLeuArgAla-143
 154-ArgLeuIleArgArgGlyLeu-160
 193-ArgAlaHisArgValGly-198
 205-GlyArgAsnArgArgAla-210
 210-ProValValLysArgArgAlaGln-226
 230-GlyLysPheArgArgArgArgIleArgValGlyIle-241
 253-GlyAsnGlyLysHisSerAla-259

g661**AMPHI Regions - AMPHI**

19-GlyIleAlaAspLysProPheArgArgLeuCysArgAlaPheGlyAla-34
 48-LeuArgAsnThrGlyLysThrLeu-55
 76-ProGluGlnMetAlaAsp-81
 122-AlaAlaIleLeuGluAlaValValLys-130
 152-ProAlaValAlaLysIleAlaGlu-159
 222-HisAspArgAlaArg-226

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237-PheGluAlaLeuCysArg-242
 246-PheThrAlaCysLeuGluPhe-252

Antigenic Index - Jameson-Wolf

20-IleAlaAspLysProPheArgArgLeuCysArg-30
 45-AspProThrLeuArgAsnThrGlyLysThrLeuHisArgSerAspPheAlaAspGluGlyGly-65
 72-AlaGlySerAspProGluGlnMetAlaAspAlaAlaArg-84
 97-AsnMetGlyCysProAlaLysLysValCys-106
 115-MetGlnAspGluProLeu-120
 143-GlyTrpHisAspAspGlnAsnLeu-151
 156-LysIleAlaGluAspCysGly-162
 169-ProArgAlaArgAla-173
 175-AlaAsnValGlnArgArgGlyAlaLeuArgThrHisArgArgAspGlnLysProSerGluHisProGlyLeu
 GlyGlnArgArgHisHisPheAlaAlaLysSerArgArgArgProGlnThrAsnArgArgArgArgHisHisAspA
 rgAlaArgArgAlaArgGln-230
 241-CysArgThrArgArgPhe-246
 253-GlyArgMetGlnSerArgHisPheGluProHisProArgHisAlaArg-268
 271-TrpXxxAspArgArgCysAlaHisArgThrGlnThrHisArgLeuValHisArgArgAsnAlaArgArgArg
 ThrGlyAlaAla-298

Hydrophilic Regions - Hopp-Woods

20-IleAlaAspLysProPheArgArgLeuCysArg-30
 46-ProThrLeuArgAsnThrGlyLysThrLeuHisArgSerAspPheAlaAspGluGlyGly-65
 73-GlySerAspProGluGlnMetAlaAspAlaAlaArg-84
 100-CysProAlaLysLysValCys-106
 115-MetGlnAspGluProLeu-120
 144-TrpHisAspAspGlnAsn-150
 156-LysIleAlaGluAspCysGly-162
 169-ProArgAlaArgAla-173
 175-AlaAsnValGlnArgArgGlyAlaLeuArgThrHisArgArgAspGlnLysProSerGluHisProGlyLeu
 GlyGlnArgArgHisHisPhe-205
 207-AlaLysSerArgArgArgProGlnThrAsnArgArgArgArgHisHisAspArgAlaArgArgAlaArgGln
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 241-CysArgThrArgArgPhe-246
 253-GlyArgMetGlnSerArgHisPheGluProHisProArgHisAla-267
 271-TrpXxxAspArgArgCysAlaHisArgThrGlnThr-282
 285-LeuValHisArgArgAsnAlaArgArgArgThrGlyAla-297

g663**AMPHI Regions - AMPHI**

19-ProPheAlaLeuLeuHisLysIleAlaGlyLeuIleGlySerLeuAlaTyr-35
 66-LysGlnHisPheLysHisMetAlaLysLeu-75
 86-SerAlaLysCysLeuLysSerLeuValArg-95
 168-GluGlyLeuArgAlaLeuValLysGlnPheArgLys-179
 209-ThrIleThrGlyLeuSerArgIleAlaAlaLeuAlaAsn-221
 243-ProAlaTrpLysSer-247
 258-GlnArgMetAsnArgPheIleGluGluArgValArgGluHis-271

Antigenic Index - Jameson-Wolf

38-ValLysProArgArgArgIleGlyGlu-46
 54-ProGluTrpAspGluGluLysArgLysThrValLeu-65
 87-AlaLysCysLeuLysSer-92
 94-ValArgTyrArgAsnLysHisTyrLeuAsp-103
 105-AlaLeuAlaAlaGlyGluLys-111
 139-TyrSerHisGlnLysAsnLysIleLeuAsp-148
 150-GlnIleLeuLysGlyArgAsnArgTyr-158

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166-ArgThrGluGlyLeuArgAlaLeu-173
 175-LysGlnPheArgLysSerSerAla-182
 188-ProAspGlnAspPheGlyArgAsnAsnSer-197
 229-ProValArgGluAlaAspAsnThrVal-237
 243-ProAlaTrpLysSerPheProSerGluAspAlaGlnAlaAspAlaGlnArgMetAsnArgPheIleGluGlu
 ArgValArgGluHisProGlu-273
 280-LysArgPheLysThrArgProGluGlySerProAspPheTyr-293

Hydrophilic Regions - Hopp-Woods

39-LysProArgArgArgIleGlyGlu-46
 54-ProGluTrpAspGluGluLysArgLysThrValLeu-65
 88-LysCysLeuLysSer-92
 94-ValArgTyrArgAsn-98
 105-AlaLeuAlaAlaGlyGluLys-111
 142-GlnLysAsnLysIleLeuAsp-148
 150-GlnIleLeuLysGlyArgAsnArgTyr-158
 166-ArgThrGluGlyLeuArgAlaLeu-173
 176-GlnPheArgLysSerSer-181
 190-GlnAspPheGlyArg-194
 229-ProValArgGluAlaAspAsn-235
 248-PheProSerGluAspAlaGlnAlaAspAlaGlnArgMetAsnArgPheIleGluGluArgValArgGluHis
 ProGlu-273
 280-LysArgPheLysThrArgProGluGlySerPro-290

g664**AMPHI Regions - AMPHI**

28-AlaHisArgMetGly-32
 47-AlaAspValLeuAspAlaAlaHisGlyAlaAlaGly-58
 90-ProValValGluIle-94
 158-LeuHisArgValPheSerThrIleProArg-167

Antigenic Index - Jameson-Wolf

26-AspGlyAlaHisArgMetGlyGlyArgAla-35
 73-PheLeuGlnArgLysLeuGluPro-80
 113-AlaValGlyGluAspGluLeuGlyVal-121
 138-TyrGlyAspAspHisGluAsn-144
 163-SerThrIleProArgGlnSerArgProTrp-172
 175-ProLeuArgTrpCysLysThrArgPhe-183

Hydrophilic Regions - Hopp-Woods

27-GlyAlaHisArgMetGlyGly-33
 74-LeuGlnArgLysLeuGluPro-80
 113-AlaValGlyGluAspGluLeuGlyVal-121
 138-TyrGlyAspAspHisGluAsn-144
 166-ProArgGlnSerArg-170

g665-1**AMPHI Regions - AMPHI**

6-ArgTyrLeuLysAspTyrGln-12
 115-GlnCysGluProGluGlyPheArgLysIleThr-125
 132-AspValMetSerLysPheThrThrThr-140
 167-ArgHisTrpValLysTrpGluAspProPhe-176
 225-SerLeuLysAsnAlaMetLys-231
 286-GlyIleGluSerValVal-291
 294-GluTyrPheHisAsnTrpThr-300
 307-ArgAspTrpPheGlnLeuSerLeu-314
 329-AspArgAlaGlyArgAlaValArgArgIleGluAsnIleArgLeuLeuArgGln-346

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358-HisProValArgProValSerTyrGluGluMetAsnAsnPheTyrThr-373
380-GlyAlaGluValValArgMetTyrHisThrLeu-390
396-PheGlnLysGlyMetLys-401
517-GluGlyValThrGluAlaValValProSerLeuLeuArgGlyPheSerAlaProVal-535
559-CysTrpGluAlaAla-563
575-LeuAlaAlaLeuSerAspGlyIle-582
589-LysLeuLeuAlaAlaValGlu-595
603-LeuAspAsnAlaPheLysAlaLeu-610
622-AspGlyThrGluAsnIleAspProLeu-630
642-ThrLeuAlaValArg-646
648-LeuProLysTrpHisGluLeuAspArg-656
674-AspTrpArgThrLeuArgAsnValCysArgAla-684
696-ThrValAlaGluLysTyrGlyGluMetAlaGlnAsnMet-708
712-TrpGlyIleLeuSer-716
730-LeuAlaGlnPheAlaAspLysPheSer-738
758-AspThrLeuGlnGlnValGlnThrAla-766
782-SerLeuIleGlySerPheSerArgAsnVal-791
822-ArgLeuValGlnAlaPheAsnLeuCysAsnLysLeu-833

Antigenic Index - Jameson-Wolf

1-MetSerLysThrValArgTyrLeuLysAspTyrGlnThrProAla-15
32-ThrValValLysSerArgLeuThrValGluProGlnArgAlaGlyGlu-47
49-LeuValLeuAspGlySerAla-55
79-AlaAspValProSerGluArgPheThrVal-88
90-ValGluThrGluIleLeuProAlaGluAsnLysSerLeu-102
115-GlnCysGluProGluGlyPheArgLys-123
128-IleAspArgProAspValMetSer-135
142-ValAlaAspLysLysArgTyrPro-149
153-SerAsnGlyAsnLysIleAspGlyGlyGluPheSerAspGlyArgHisTrpValLysTrpGluAspProPheAlaLysProSer-180
191-AlaValThrGluAspArgPheThrThrMetSerGlyArgAsnValLysIle-207
211-ThrThrGluAlaAspLysProLysVal-219
230-MetLysTrpAspGluThrArgPhe-237
255-AsnMetGlyAlaMetGluAsnLysGlyLeu-264
275-AspSerArgThrAlaThrAspThrAspPheGluGlyIleGlu-288
295-TyrPheHisAsnTrpThrGlyAsnArgValThrCysArgAspTrp-309
313-SerLeuLysGluGly-317
322-ArgAspGlnGluPheSerGlyAspArgAlaGlyArgAlaValArgArgIleGluAsn-340
342-ArgLeuLeuArgGlnAsnGlnPheProGluAspAlaGlyProThrAlaHisProValArgProValSerTyrGluGluMetAsn-369
376-ValTyrGluLysGlyAlaGluVal-383
394-GluGlyPheGlnLysGlyMet-400
404-PheGlnArgHisAspGlyGlnAlaValThrCysAspAspPheArgAlaAlaMet-421
437-SerGlnAlaGlyThrPro-442
444-LeuGluAlaGluGlyArgLeuLysAsnAsnVal-454
459-IleLysGlnThrValProProThrProAspMetAlaAspLysGlnPro-474
483-LeuLeuAsnArgAsnGlyGluAlaVal-491
494-AspTyrGlnGlyLysArgAlaThrGlu-502
508-ThrGluAlaGluGln-512

538-AsnTyrProTyrSerAspAspAspLeu-546
552-HisAspSerAspAla-556
578-LeuSerAspGlyIleGlyLeuProLysHisGluLysLeu-590
594-ValGluLysValIleSerAspAspLeuLeu-603

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614-ValProSerGluAlaGluLeuTrpAspGlyThrGluAsnIleAspProLeuArg-631
633-HisGlnAlaArgGluAlaLeu-639
652-HisGluLeuAspArgGlnAlaAlaLysGlnGluAsnGlnSerTyrGluTyrSerProGluThrAlaAsp-674
676-ArgThrLeuArgAsnValCys-682
689-AlaAspProAlaHis-693
696-ThrValAlaGluLysTyrGlyGlu-703
718-ValAsnGlyAsnGluSerAspThrArgAsnCys-728
733-PheAlaAspLysPheSerAspAspAlaLeuVal-743
752-GlySerSerArgArgSerAspThrLeuGln-761
768-GlnHisProLysPheSerLeuGluAsnProAsnLysAlaArgSer-782
785-GlySerPheSerArgAsnValPro-792
796-AlaGlnAspGlySerGlyTyrArgPheIleAla-806
808-LysValIleGluIleAspArgPheAsnProGlnVal-819
831-AsnLysLeuGluProHisArgLysAsnLeuValLysGlnGluLeuGlnCys-847
849-ArgAlaGlnGluGlyLeuSerLysAspValGlyGluIleVal-862

Hydrophilic Regions - Hopp-Woods

1-MetSerLysThrValArgTyrLeuLys-9
32-ThrValValLysSerArgLeuThrValGluProGlnArgAlaGlyGlu-47
81-ValProSerGluArgPheThrVal-88
90-ValGluThrGluIleLeuProAlaGluAsnLysSer-101
116-CysGluProGluGlyPheArg-122
129-AspArgProAspValMetSer-135
142-ValAlaAspLysLysArgTyr-148
154-AsnGlyAsnLysIleAspGlyGlyGluPheSerAsp-165
170-ValLysTrpGluAspProPheAla-177
191-AlaValThrGluAspArgPheThr-198
201-SerGlyArgAsnValLys-206
213-GluAlaAspLysProLysVal-219
230-MetLysTrpAspGluThrArgPhe-237
258-AlaMetGluAsnLysGly-263
275-AspSerArgThrAlaThrAspThrAspPheGluGlyIleGlu-288
313-SerLeuLysGluGly-317
322-ArgAspGlnGluPheSerGlyAspArgAlaGlyArgAlaValArgArgIleGluAsn-340
348-GlnPheProGluAspAlaGlyPro-355
363-ValSerTyrGluGluMetAsn-369
376-ValTyrGluLysGlyAlaGluVal-383
394-GluGlyPheGlnLysGlyMet-400
406-ArgHisAspGlyGln-410
413-ThrCysAspAspPheArgAlaAlaMet-421
444-LeuGluAlaGluGlyArgLeuLysAsnAsnVal-454
467-ProAspMetAlaAspLysGlnPro-474
495-TyrGlnGlyLysArgAlaThrGlu-502
508-ThrGluAlaGluGln-512
541-TyrSerAspAspAspLeu-546
552-HisAspSerAspAla-556
585-ProLysHisGluLysLeu-590
594-ValGluLysValIleSer-599
616-SerGluAlaGluLeu-620
622-AspGlyThrGluAsnIleAspPro-629
633-HisGlnAlaArgGluAlaLeu-639
652-HisGluLeuAspArgGlnAlaAlaLysGlnGluAsnGlnSer-665
668-TyrSerProGluThrAlaAsp-674
689-AlaAspProAlaHis-693

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696-ThrValAlaGluLysTyrGlyGlu-703
 719-AsnGlyAsnGluSerAspThrArgAsn-727
 733-PheAlaAspLysPheSerAspAlaLeuVal-743
 753-SerSerArgArgSerAspThrLeu-760
 776-AsnProAsnLysAlaArgSer-782
 797-GlnAspGlySerGly-801
 808-LysValIleGluIleAspArgPheAsn-816
 831-AsnLysLeuGluProHisArgLysAsnLeuValLysGlnGluLeuGlnCys-847
 849-ArgAlaGlnGluGlyLeuSerLysAspValGlyGluIleVal-862
g666

AMPHI Regions - AMPHI

24-AlaLeuIleMetSerMetVal-30
 57-HisThrProGluHisValThrGly-64
 89-GlyTyrAspIleLeuLysGlnGlyGlySer-98
 162-LeuLysPheMetGluAlaValVal-169

Antigenic Index - Jameson-Wolf

6-TyrGlnSerAsnSerGlyGluGlyValLeu-15
 40-AsnGlnGlyLysValAsnThr-46
 55-AspAlaHisThrProGluHis-61
 63-ThrGlyLeuThrGluGlnLysGln-70
 80-SerAlaAsnProLeuAla-85
 92-IleLeuLysGlnGlyGlySerAlaAla-100
 114-GluProGlnSerSerGlyLeuGlyGly-122
 130-AspAsnThrAlaLysThr-135
 137-ThrThrPheAspGlyArgGluThrAlaPro-146
 154-PheLeuAspLysAspGlyXxxProLeuLys-163

Hydrophilic Regions - Hopp-Woods

40-AsnGlnGlyLysValAsnThr-46
 66-ThrGluGlnLysGln-70
 96-GlyGlySerAlaAla-100
 139-PheAspGlyArgGluThrAlaPro-146
 154-PheLeuAspLysAspGlyXxxPro-161
g667

AMPHI Regions - AMPHI

46-PheAlaIleIleAlaAsp-51
 56-AlaArgValGluArgPheProHisPheAlaAla-66
 71-LeuAlaArgLysAlaAlaGlnPhe-78
 115-IleAlaAlaValAlaGluIle-121
 153-AlaAspGlnLeuArgArgMetPhePheAsnGlnPheGluLysLeuGlyAsnHisAsp-171
 202-GluValValLeuHisLysIleAlaAlaGlyLeu-212

Antigenic Index - Jameson-Wolf

7-LeuGlyGlyGluIleValSerAspProCysAspPhe-18
 25-ValGluSerAlaAlaAspGlnThrGluThrGln-35
 56-AlaArgValGluArg-60
 71-LeuAlaArgLysAlaAlaGln-77
 84-ArgHisIleArgProArgLeuValLysArgGluGlnIle-96
 152-ProAlaAspGlnLeuArg-157
 165-GluLysLeuGlyAsnHisAspPhe-172
 192-HisThrAlaGlyAsnArgHisAsnLeu-200
 225-ValIleArgGlnGlyArgArgGlnValIleGlnArgThrAspThrLeu-240
 248-IleGluSerGlnAsnArgIleHisGlySerThrLeuHisSerLysThrAspLeu-265

Hydrophilic Regions - Hopp-Woods

11-IleValSerAspProCysAsp-17
 25-ValGluSerAlaAlaAspGlnThrGluThrGln-35
 56-AlaArgValGluArg-60
 71-LeuAlaArgLysAlaAlaGln-77
 84-ArgHisIleArgProArgLeuValLysArgGluGlnIle-96
 165-GluLysLeuGlyAsn-169
 227-ArgGlnGlyArgArgGlnValIleGlnArgThrAspThr-239
 250-SerGlnAsnArgIleHis-255
 259-LeuHisSerLysThrAspLeu-265
g669

AMPHI Regions - AMPHI

24-LysLeuHisArgAlaPhe-29
 59-GlnIlePheArgHisValGlnSer-66
 79-LysProProAsnThrAla-84

Antigenic Index - Jameson-Wolf

1-MetArgArgIleValLysLysHisGlnProValAsnAla-13
 33-GlyArgLysArgProHisHisHisAspArgSerLeuArgArgGlnHisGlyIleGluGlyMetGlyPhe-55
 64-ValGlnSerSerAsnArgGlnSerGlyArgGlnProValCysThrLysProProAsnThrAlaSer-85
 100-AlaAspIleLysArgIleLeu-106

Hydrophilic Regions - Hopp-Woods

1-MetArgArgIleValLysLysHisGlnPro-10
 33-GlyArgLysArgProHisHisHisAspArgSerLeuArgArgGlnHisGly-49
 65-GlnSerSerAsnArgGlnSerGlyArgGlnProValCysThrLysProProAsn-82
 100-AlaAspIleLysArgIleLeu-106
g670

AMPHI Regions - AMPHI

10-ArgSerCysPheGly-14
 16-ValLysAsnAlaSerGlyValSer-23
 34-IleThrArgSerAla-38
 126-PheSerAlaCysSerAlaPheCysProLeu-135

Antigenic Index - Jameson-Wolf

4-CysArgAsnCysLeuAlaArgSerCys-12
 18-AsnAlaSerGlyValSerSerSerArgIleCysProLeuSer-31
 33-LysIleThrArgSerAlaThrSerArgAlaAsnProIle-45
 65-AsnThrSerProThrIleSerGlySerSerAlaGluValGlySerSerAsnSerIleThrArgGlySerIleAlaSerProArgAlaIleAla-95
 100-TrpProProGluSerTrpGluGlyLysAla-109
 114-AlaSerProThrArgSerLysSerSer-122
 128-AlaCysSerAlaPhe-132
 146-AsnThrValArgCysGly-151

Hydrophilic Regions - Hopp-Woods

33-LysIleThrArgSerAlaThrSerArgAlaAsn-43
 73-SerSerAlaGluValGlySer-79
 116-ProThrArgSerLysSer-121
g671

AMPHI Regions - AMPHI

11-PheAsnAlaProAsn-15
 72-LysGlyAlaAlaLys-76
 119-ArgLeuPheIleArgTyr-124

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Antigenic Index - Jameson-Wolf

9-ThrProPheAsnAlaProAsnThrProProLysMetArgLeuAlaLysProArgProThrAlaGluThrAlaProValSerSerGluArg-38
 45-GlnAlaMetThrAsnArgGluMetAsnAspArgAlaAsnAlaAsnArgArgGlyTrpAsnGluAlaLysAlaArgSerAlaLysGlyAlaAla-75
 77-SerLeuAlaLysLysLysGluThrThr-85
 110-AlaGluAlaArgArgSerAlaMet-117

Hydrophilic Regions - Hopp-Woods

16-ThrProProLysMetArgLeuAlaLysProArgProThrAlaGlu-30
 32-AlaProValSerSerGluArg-38
 47-MetThrAsnArgGluMetAsnAspArgAlaAsnAlaAsnArgArgGlyTrpAsnGluAlaLysAlaArgSerAlaLysGlyAlaAla-75
 77-SerLeuAlaLysLysLysGluThrThr-85
 110-AlaGluAlaArgArgSerAlaMet-117

g672**AMPHI Regions** - AMPHI

38-ArgAlaIleAspIleIleLysAlaGlnLys-47
 50-AlaAlaLeuProProPheValSerValVal-59
 67-AlaGlnAsnIleArgArgIleLeuAlaGluValPro-78
 91-AlaPheCysArgGlnPheAspArgProTyr-100
 105-ArgValGlnThrAlaSerAspIle-112
 115-AlaAlaThrArgPheProAsn-121
 131-HisProSerGluTyrGly-136
 163-ProGluAsnValGlyGluAlaValArg-171
 173-ThrGlyAlaGluAla-177

Antigenic Index - Jameson-Wolf

1-MetArgLysIleArgThrLysIleCysGlyIleThrThrProGluAspAlaLeu-18
 34-ProGlnSerProArgAlaIleAspIleIleLysAlaGlnLys-47
 65-GluSerAlaGlnAsnIleArgArgIleLeuAla-75
 84-PheHisGlyAspGluAspAspAlaPhe-92
 95-GlnPheAspArgProTyrIle-101
 107-GlnThrAlaSerAspIleArgAsnAlaAla-116
 130-TyrHisProSerGluTyrGlyGlyThrGlyHisArgPheAsp-143
 149-GluTyrSerGlyLysPro-154
 159-GlyGlyLeuThrProGluAsnValGlyGluAlaValArg-171
 176-GluAlaValAspValSerGlyGlyValGluAlaSerLysGlyLysLysAspProAlaLys-195
 202-ThrAlaAsnArgLeuSerArg-208

Hydrophilic Regions - Hopp-Woods

1-MetArgLysIleArgThrLysIle-8
 13-ThrProGluAspAlaLeu-18
 36-SerProArgAlaIleAsp-41
 43-IleLysAlaGlnLys-47
 66-SerAlaGlnAsnIleArgArgIleLeuAla-75
 85-HisGlyAspGluAspAspAlaPhe-92
 110-SerAspIleArgAsnAlaAla-116
 165-AsnValGlyGluAlaValArg-171
 184-ValGluAlaSerLysGlyLysLysAspProAlaLys-195
 204-AsnArgLeuSerArg-208

g673**AMPHI Regions** - AMPHI

84-LeuAsnAspArgLeuAsnGlnAsnValThrGluAlaLeuGlyGlyValAspVal-101
 110-ArgLeuThrAspAla-114

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117-ValValLeuLysGlnLeuProLys-124
 172-ArgIleAlaAsnLeuLeuGluLeuLysProTyrLeu-184
 212-LysLeuPheArgTyrLeuGlyGluGlu-220
 232-PheGluGluGlyAspGly-237
 261-GlyGluArgLeuLysLysIleSerThr-269
 286-LysValTrpValLysValLys-292

Antigenic Index - Jameson-Wolf

7-LeuAlaGlyGluArgAlaAlaGlyGlyTyrArg-17
 24-ValGlyArgProAsnValGlyLysSerThr-33
 44-SerIleThrSerLysLysAlaGlnThrThrArgAsnArgValThr-58
 61-TyrThrAspAspThrAla-66
 73-ThrProGlyPheGlnThrAspHisArgAsnAlaLeuAsnAspArgLeuAsnGlnAsnValThrGlu-94
 109-MetArgLeuThrAspAlaAspArgValVal-118
 121-GlnLeuProLysHisThr-126
 134-LysIleAspLysAspLysAlaLysAspArgTyrAla-145
 153-ValArgAlaGluPhe-157
 180-LeuLysProTyrLeuProGluSerVal-188
 190-MetTyrProGluAspMetValThrAspLysSerAlaArg-202
 208-IleValArgGluLysLeuPhe-214
 217-LeuGlyGluGluLeuPro-222
 227-ValGluValGluGlnPheGluGluGlyAspGlyLeuAsn-239
 247-ValAspLysGluSerGlnLys-253
 258-GlyLysGlyGlyGluArgLeuLysLysIleSerThrGluAlaArgLeuAspMetGluLysLeuPheAspAsn
 LysVal-283
 291-ValLysSerGlyTrpAlaAspAspIleArgPheLeuArg-303

Hydrophilic Regions - Hopp-Woods

7-LeuAlaGlyGluArgAlaAlaGly-14
 45-IleThrSerLysLysAlaGlnThrThrArgAsnArgVal-57
 61-TyrThrAspAspThrAla-66
 78-ThrAspHisArgAsnAlaLeuAsnAspArgLeuAsn-89
 109-MetArgLeuThrAspAlaAspArgValVal-118
 134-LysIleAspLysAspLysAlaLysAspArgTyrAla-145
 153-ValArgAlaGluPhe-157
 194-AspMetValThrAspLysSerAlaArg-202
 208-IleValArgGluLysLeuPhe-214
 217-LeuGlyGluGluLeuPro-222
 227-ValGluValGluGlnPheGluGluGlyAspGlyLeuAsn-239
 247-ValAspLysGluSerGlnLys-253
 259-LysGlyGlyGluArgLeuLysLysIleSerThrGluAlaArgLeuAspMetGluLysLeuPheAsp-280
 293-SerGlyTrpAlaAspAspIleArgPheLeuArg-303

g674**AMPHI Regions** - AMPHI

16-ValTyrGlnSerLeuIle-21
 24-ThrAlaAlaProGluIleAlaLysAsnIleArgGluMetSerAspPheAlaLysAlaAspGluGluLeu-46
 58-AlaAlaAspTyrIleGlnLysIleArg-66
 86-ThrAlaCysHisGluLeuSerAlaMetProGluThr-97
 107-IleGluValThrLysThrPheGlyGlyThrAspGlyHisLysPheValAsnGlyIleLeuAspLysLeuAla
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Antigenic Index - Jameson-Wolf

1-MetLysThrAlaArgArgArgSerArgGluLeuAla-12
 28-GluIleAlaLysAsnIleArgGluMetSerAspPheAlaLysAlaAspGluGluLeuPhe-47
 54-ThrGlnThrAsnAla-58

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61-TyrIleGlnLysIleArgProLeuLeuAspArgAspGluLysAspLeuAsnProIleGluArg-81
 93-AlaMetProGluThrProTyr-99
 105-GluAlaIleGluValThrLysThrPheGlyGlyThrAspGlyHisLysPhe-121
 129-LeuAlaAlaGlnIleArgProAspGluProLysArgArg-141

Hydrophilic Regions - Hopp-Woods

1-MetLysThrAlaArgArgArgSerArgGluLeuAla-12
 28-GluIleAlaLysAsnIleArgGluMetSerAspPheAlaLysAlaAspGluGluLeuPhe-47
 63-GlnLysIleArgProLeuLeuAspArgAspGluLysAspLeuAsnProIleGluArg-81
 105-GluAlaIleGluVal-109
 133-IleArgProAspGluProLysArgArg-141

g675**AMPHI Regions - AMPHI**

21-ArgPheThrAsnGluIleGlySerGlnMetLeuLysValCysCysArgThrLeuGlnGluLeuGly-42
 74-AlaLeuIleAlaIle-78
 123-GlnAlaIleGluArgIleGlyGluLysAlaSerAsp-134
 141-GluCysAlaAsnLeuValAsnLeuLeuLeuGlu-151

Antigenic Index - Jameson-Wolf

6-ProAsnLeuAspGlyLysHisLeuArg-14
 42-GlyValAlaAspGluAsnIle-48
 68-SerSerGluLysPheAsp-73
 82-IleArgGlyGluThrTyr-87
 93-AlaAsnGluSerGlyAlaGlyIle-100
 118-ThrGluAsnAspAlaGlnAlaIleGluArgIleGlyGluLysAlaSerAspAlaAlaLysValAlaVal-140
 152-GluGlnPheGluAspGluGlu-158

Hydrophilic Regions - Hopp-Woods

8-LeuAspGlyLysHisLeuArg-14
 42-GlyValAlaAspGluAsnIle-48
 68-SerSerGluLysPheAsp-73
 82-IleArgGlyGluThrTyr-87
 95-GluSerGlyAlaGly-99
 118-ThrGluAsnAspAlaGlnAlaIleGluArgIleGlyGluLysAlaSerAspAlaAlaLysValAlaVal-140
 152-GluGlnPheGluAspGluGlu-158

g677**AMPHI Regions - AMPHI**

19-ThrValArgLeuCysArgPheArgArg-27
 45-LeuThrAlaPheArgArgValGlnAsnHisPheValAlaPheAlaArgPheAsnGlnAlaThrArgGlnArgArg-69
 79-IleAspPheIleAspAlaAsp-85
 87-PheAspGlyLeuLeuAla-92
 155-CysArgProValAspAspLeuAspAsp-163
 166-AlaPhePheIleAspGlnLeuIleLysLeuValPheGlnCys-179

Antigenic Index - Jameson-Wolf

23-CysArgPheArgArgHisSerArgSerValAsp-33
 35-AspValPheAspArgLysAspPheAsnPhe-44
 63-GlnAlaThrArgGlnArgArgAsnProArgAsnPheVal-75
 82-IleAspAlaAspAspPheAspGly-89
 97-GlnGlnThrAspGlyArgAlaGluLys-105
 115-GlyIleAspAspAspGlySerLeu-122
 125-PheGlyGlnGluThrAspAlaAlaVal-133

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156-ArgProValAspAspLeuAspAspPheGly-165
 181-ProSerGlyGlyArgAsn-186

Hydrophilic Regions - Hopp-Woods

23-CysArgPheArgArgHisSerArgSerValAsp-33
 35-AspValPheAspArgLysAspPhe-42
 63-GlnAlaThrArgGlnArgArgAsnProArg-72
 82-IleAspAlaAspAspPheAsp-88
 97-GlnGlnThrAspGlyArgAlaGluLys-105
 115-GlyIleAspAspAspGlySer-121
 126-GlyGlnGluThrAspAlaAlaVal-133
 156-ArgProValAspAspLeuAspAsp-163

g678**AMPHI Regions - AMPHI**

24-MetArgGlyValIle-28
 47-PheAlaAlaProPhe-51
 80-IleGlnLysMetLeuArgSerLeuLeuThrGlyAla-91
 102-ArgIleLeuGlyGlyValPheGlyAlaLeu-111
 130-ProAspThrGluGlu-134

Antigenic Index - Jameson-Wolf

125-SerLysThrAspLeuProAspThrGluGluTrpGlnGlnSerTyr-139
 153-AsnHisThrAspAsnAlaProGluSerLeuAspAspAsp-165

Hydrophilic Regions - Hopp-Woods

125-SerLysThrAspLeuProAspThrGluGluTrpGln-136
 155-ThrAspAsnAlaProGluSerLeuAspAspAsp-165

g681**AMPHI Regions - AMPHI**

12-PheSerGluGluAlaLysPheIleSerAlaMet-22
 110-CysAlaValPheGlyLysLeuProArg-118
 123-LeuGlyLysGlnCysGly-128
 137-ValGlyGluAlaAspAspAla-143
 146-ValGlyValValGlyValPheVal-153
 202-LysCysValHisCysGlyAsnThr-209
 212-GlyGlyLysLeuAlaAspPheThrThrIleProAla-223
 235-CysAlaProPheAlaAlaLeuArgCysPheCysIlePheGlyValTrpLysArgIleArgAlaValPheCys
 GlyArg-260

Antigenic Index - Jameson-Wolf

11-AsnPheSerGluGluAlaLysPhe-18
 39-AlaThrProAsnSerTrpArgValArgGlnGln-49
 59-LeuValLysArgAlaCys-64
 67-ProMetArgArgCysLeuProSerArgLeu-76
 91-SerGluCysArgLeuLys-96
 122-GlyLeuGlyLysGlnCysGlyGlyPhe-130
 134-PheGlyAspValGlyGluAlaAspAspAlaGluVal-145
 157-AlaAlaGluGluThrPro-162
 173-AlaValLysGluAlaAspGly-179
 185-AspGlyValGlyGlyAspAlaAlaValGluCysArgGlyLysCysLeuCys-201
 209-ThrLeuGlyGlyGlyLysLeuAlaAsp-217
 224-LeuSerAlaAspGlyGlyGly-230
 257-PheCysGlyArgArg-261

Hydrophilic Regions - Hopp-Woods

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11-AsnPheSerGluGluAlaLysPhe-18
 44-TrpArgValArgGln-48
 59-LeuValLysArgAlaCys-64
 67-ProMetArgArgCysLeuPro-73
 91-SerGluCysArgLeuLys-96
 136-AspValGlyGluAlaAspAspAlaGluVal-145
 157-AlaAlaGluGluThrPro-162
 173-AlaValLysGluAlaAspGly-179
 191-AlaAlaValGluCysArgGlyLysCysLeu-200
 257-PheCysGlyArgArg-261

g682**AMPHI Regions - AMPHI**

33-ArgLeuArgLysCysGlyArgIleLeuSerGlyIleCysGluProPhe-48
 75-IleLysMetProSerGluPro-81
 91-AlaGlyPheIleArgPhePro-97

Antigenic Index - Jameson-Wolf

9-ProTyrGlyGluArgArgLysAsnTrpAsp-18
 29-LeuSerProThrArgLeuArgLysCysGlyArg-39
 70-CysValAsnAspGluIleLysMetProSerGluProAspTrp-83
 95-ArgPheProThrAspArgProIleLeu-103
 112-IleSerProArgThrGlyPheArgTyrProThrArgSerLeuProLysSerLysLysAlaTyrGly-133

Hydrophilic Regions - Hopp-Woods

11-GlyGluArgArgLysAsnTrpAsp-18
 30-SerProThrArgLeuArgLysCysGlyArg-39
 72-AsnAspGluIleLysMetProSerGluProAspTrp-83
 97-ProThrAspArgProIleLeu-103
 124-SerLeuProLysSerLysLysAlaTyrGly-133

g683**AMPHI Regions - AMPHI**

26-ThrProAspLysSerAlaArgTrpGluAsnIleGlyThrIleSerAsn-41
 75-ArgPheAlaAsnThrPro-80
 101-SerSerLeuGlnLeuPhe-106
 124-ArgProMetSerIleLeuSerGly-131

Antigenic Index - Jameson-Wolf

24-CysSerThrProAspLysSerAlaArgTrpGluAsn-35
 37-GlyThrIleSerAsnGly-42
 48-IleAsnLysAspSerValArgLysAsnGlyAsn-58
 63-GlnAspLysLysValValThrAsnLeuLysGlnGluArgPheAlaAsnThrProAlaTyr-82
 93-CysAsnAsnLysThrTyrArgLeu-100
 106-PheAspThrLysAsnThrGluIleSerThrGlnAsnTyrThrAlaSerSerLeuArgPro-125
 131-GlyThrLeuThrGluLysGlnTyrGlu-139
 141-ValCysGlyLysLysLeu-146

Hydrophilic Regions - Hopp-Woods

25-SerThrProAspLysSerAlaArgTrpGluAsn-35
 48-IleAsnLysAspSerValArgLysAsnGly-57
 63-GlnAspLysLysValValThr-69
 71-LeuLysGlnGluArgPheAla-77
 107-AspThrLysAsnThrGluIleSer-114
 133-LeuThrGluLysGlnTyrGlu-139
 141-ValCysGlyLysLysLeu-146

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AMPHI Regions - AMPHI

13-AlaAlaCysGlyThrValGln-19
 47-LeuAlaGluProLeu-51
 73-TrpAlaAspThrLeuAspAspMetLeuGluAlaAlaLeuSerAsnAlaPheAsnArgLeuAspSerThrArg-96
 110-TrpThrValTyrIleAspAlaPheGlnGlySerTyr-121
 154-AlaMetThrAlaAlaLeuGluGlnGlyLeuLysGlnAlaAlaGlnGlnMetVal-171

Antigenic Index - Jameson-Wolf

26-LeuProAspSerArgTyrIleArgProAlaThrGlnGlyGlyGluThrAlaValGluValArgLeuAlaGluProLeuLysArgGlyGlyLeu-56
 60-ThrAspProTyrArgIleAsnThrAlaGln-69
 76-ThrLeuAspAspMetLeuGlu-82
 90-AsnArgLeuAspSerThrArgThrPhe-98
 101-AlaSerArgSerGlySerThrAspLys-109
 117-PheGlnGlySerTyrThrGlyLysThrLeu-126
 133-LeuProAspGlyThrAsnArgProPheHisIleGluThrGluGlnGlnGlyAspGlyTyrAla-153
 161-GlnGlyLeuLysGlnAlaAla-167

Hydrophilic Regions - Hopp-Woods

27-ProAspSerArgTyrIleArg-33
 35-AlaThrGlnGlyGlyGluThrAlaValGluValArgLeuAlaGluProLeuLysArgGlyGly-55
 76-ThrLeuAspAspMetLeuGlu-82
 90-AsnArgLeuAspSerThrArg-96
 102-SerArgSerGlySerThrAspLys-109
 141-PheHisIleGluThrGluGlnGlnGlyAsp-150
 161-GlnGlyLeuLysGlnAlaAla-167

g685**AMPHI Regions - AMPHI**

7-AsnPheAlaPheCysGlyValVal-14
 44-CysAlaValLeuPro-48
 61-ValSerAlaAlaSerGln-66
 98-TrpAlaAlaLeuAspThrLeuThrGluPro-107
 141-CysGluSerLeuHisArgHis-147
 158-GlyAlaGluAlaTyrGluGlnLeuAlaLysAsn-168
 186-GluLysGlnMetGluThrLeuSerArgIlePheGly-197
 300-AlaValGluValLeu-304
 340-AlaAlaGluGlnLeuLysAlaAla-347

Antigenic Index - Jameson-Wolf

20-LeuAsnAsnLysHisSerTyrSerTyrAlaLysGluProHisThrValLysProArgPhe-39
 51-CysSerProGluProAlaAlaGluLysThrValSer-62
 78-ProThrAlaArgGlyAspAlaValValProLysAsnProGluArgValAla-94
 103-ThrLeuThrGluProGlyVal-109
 126-AlaPheAspLysAlaAla-131
 137-PheGluProAspCysGluSerLeuHisArgHisAsnPro-149
 155-GlyGlyProGlyAlaGluAlaTyrGluGlnLeuAlaLysAsnAlaThr-170
 174-LeuThrValAspAsnGlyAsnIleArgThrSerGlyGluLysGlnMetGluThrLeu-192
 195-IlePheGlyLysGluAlaArgValAlaGlu-204
 213-PheAlaGlnLysArgGluAlaAlaLysGlyLysGlyArgGlyLeu-227
 231-ValThrGlyAsnLysValSerAlaPheGlyThrGlnSerArgLeu-245
 251-GlyAspIleGlyLeuProProValAspGluSerLeuArgAsnGluGlyHisGlyGln-269
 275-TyrIleLysGluLysAsnProGlyTrp-283
 289-ArgThrAlaAlaIleGlyGlnGluGlyProAla-299
 313-AsnAlaTrpLysArgLysGln-319

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342-GluGlnLeuLysAlaAlaPheGluLysAlaGluProValAla-355

Hydrophilic Regions - Hopp-Woods

28-TyrAlaLysGluProHisThrValLys-36
 51-CysSerProGluProAlaAlaGluLysThrValSer-62
 79-ThrAlaArgGlyAspAlaValVal-86
 88-LysAsnProGluArgValAla-94
 126-AlaPheAspLysAlaAla-131
 137-PheGluProAspCysGluSerLeuHisArgHis-147
 160-GluAlaTyrGluGlnLeuAlaLys-167
 179-GlyAsnIleArgThrSerGlyGluLysGlnMetGluThrLeu-192
 195-IlePheGlyLysGluAlaArgValAlaGlu-204
 213-PheAlaGlnLysArgGluAlaAlaLysGlyLysGlyArgGly-226
 257-ProValAspGluSerLeuArgAsnGluGlyHisGly-268
 275-TyrIleLysGluLysAsnPro-281
 294-GlyGlnGluGlyProAla-299
 314-AlaTrpLysArgLysGln-319
 342-GluGlnLeuLysAlaAlaPheGluLysAlaGluProValAla-355

g686**AMPHI Regions - AMPHI**

10-AspValPheAspAspIleCysSerAlaValGluGlyPheGlyGlyIleAlaArgSerValGlnLeu-31
 50-SerAlaGlyIleValGluThrValGlyLysProLeu-61
 70-ValGluAlaAspIle-74
 86-IleProArgAlaPheGlySerGlyIleAlaAlaAlaLeu-98

Antigenic Index - Jameson-Wolf

1-TerTerAsnPheSerCysArgAlaAspAspValPheAsp-13
 46-LeuArgGlnHisSerAlaGlyIle-53
 56-ThrValGlyLysProLeuSerGlyAla-64
 70-ValGluAlaAspIle-74
 115-AspAlaValLysAlaGluSerValAsnGlyThrThrGly-127

Hydrophilic Regions - Hopp-Woods

6-CysArgAlaAspAspValPheAsp-13
 70-ValGluAlaAspIle-74
 115-AspAlaValLysAlaGluSerValAsn-123

g687**AMPHI Regions - AMPHI**

13-AlaAlaLeuPheAlaLeu-18
 66-LysValGluValLeuGluPhePheGlyTyrPheCysPro-78
 80-CysAlaArgLeuGluPro-85
 87-LeuSerLysHisAlaLysSerPhe-94
 114-LeuAlaArgLeuAlaAlaAla-120
 137-PheAspAlaMetVal-141
 150-ProGluValLeuLysLysTrpLeu-157
 174-SerProGluSerGln-178
 182-GlyLysMetGlnGluLeuThrGluThrPhe-191

Antigenic Index - Jameson-Wolf

1-MetLysSerArgHis-5
 21-CysAspSerLysValGlnThrSerValProAlaAspSerAlaPro-35
 45-GlyLeuValGluGlyGlnAsnTyr-52
 58-ProIleProGlnGlnGlnAlaGlyLysValGluVal-69
 77-CysProHisCysAlaArgLeuGluProValLeu-87
 89-LysHisAlaLysSerPheLysAspAspMetTyrLeu-100

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124-AlaAlaAlaGluSerLysAspValAlaAsn-133
 143-GlnLysIleLysLeuGlnGluProGluValLeuLys-154
 161-ThrAlaPheAspGlyLysLysVal-168
 173-GluSerProGluSerGlnAlaArgAlaGlyLysMetGlnGluLeuThrGlu-189
 191-PheGlnIleAspGlyThrPro-197
 201-ValGlyGlyLysTyrLysValGluPheAlaAsp-211
 213-GluSerGlyMetAsnThr-218
 222-LeuAlaAspLysValArgGluGlnLysAlaAlaGln-234

Hydrophilic Regions - Hopp-Woods

1-MetLysSerArgHis-5
 21-CysAspSerLysValGlnThr-27
 29-ValProAlaAspSerAlaPro-35
 63-GlnAlaGlyLysValGluVal-69
 81-AlaArgLeuGluProValLeu-87
 89-LysHisAlaLysSerPheLysAspAspMetTyrLeu-100
 124-AlaAlaAlaGluSerLysAspValAla-132
 143-GlnLysIleLysLeuGlnGluProGluValLeuLys-154
 161-ThrAlaPheAspGlyLysLysVal-168
 173-GluSerProGluSerGlnAlaArgAlaGlyLysMetGlnGluLeuThrGlu-189
 203-GlyLysTyrLysValGluPheAlaAsp-211
 222-LeuAlaAspLysValArgGluGlnLysAlaAlaGln-234

g688**AMPHI Regions - AMPHI**

22-LeuSerAlaLeuPheSerLeu-28
 119-GlyAspAlaLeuGlnAsnAlaAla-126

Antigenic Index - Jameson-Wolf

5-SerArgPheAlaGlnLysGlySerProValAsnLys-16
 31-CysSerValGluArg-35
 46-IleIleGlnGlyAsnGluLeuGluProArgAla-56
 61-ArgProGlyMetThrLysAspGln-68
 81-AlaPheHisThrAspArgTrpAspTyr-89
 91-PheAsnThrSerArgAsnGlyIleIleLysGluArgSerAsnLeu-105
 115-ValArgThrGluGlyAspAlaLeuGlnAsnAlaAlaGluAlaLeuArgAlaLysGlnAsnAlaAspLysGln-138

Hydrophilic Regions - Hopp-Woods

7-PheAlaGlnLysGlySerProVal-14
 50-AsnGluLeuGluProArgAla-56
 63-GlyMetThrLysAspGln-68
 97-GlyIleIleLysGluArgSerAsn-104
 115-ValArgThrGluGlyAspAlaLeuGlnAsnAlaAlaGluAlaLeuArgAlaLysGlnAsnAlaAspLysGln-138

g689**AMPHI Regions - AMPHI**

16-ValLeuMetAlaValLeuValAlaLeu-24
 33-LeuProAlaIleProGluMetAlaGln-41
 49-ArgIleGluSerLeu-53
 62-PheGlyGlnValAlaGlyGly-68
 73-IleLysGlyArgLys-77
 103-LeuLeuAsnLeuArgAlaValGlnAlaPhe-112
 138-PheAlaLeuIleGlyIleIleLeu-145
 152-AlaProMetValGlyAlaLeuLeuGlnGlyLeuGlyGlyTrpArgAlaIlePheVal-170
 177-ProValLeuProGlyLeuValGlnTyrPhe-186

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195-LysIleGlyArgAspVal-200
 207-ArgPheLysArgValLeu-212
 227-SerPheGlySerMetPheAla-233
 288-GlyIleValValGln-292
 347-AlaAsnAlaValSerGlyValPheArgSerLeuIle-358

Antigenic Index - Jameson-Wolf

1-TerTerSerProProLeuProMetSerGlyLys-12
 46-AspIleHisArgIleGluSer-52
 71-SerAspIleLysGlyArgLysProVal-79
 98-SerSerThrGluGln-102
 124-MetValArgAspTyrTyrSerGlyArgLysAlaAla-135
 189-AsnProAlaValGlyGlyLysIleGlyArgAspVal-200
 207-ArgPheLysArgValLeuLysThrArgAla-216
 275-LeuLysThrGlyAlaHisProGlnSer-283
 340-PheLysGluGluGlyGlySerAla-347
 390-LysAlaTrpLysGluAsnGluLysLysArgIleLeu-401

Hydrophilic Regions - Hopp-Woods

46-AspIleHisArgIleGluSer-52
 71-SerAspIleLysGlyArgLysProVal-79
 128-TyrTyrSerGlyArgLysAlaAla-135
 195-LysIleGlyArgAspVal-200
 207-ArgPheLysArgValLeuLysThrArgAla-216
 340-PheLysGluGluGlyGlySer-346
 390-LysAlaTrpLysGluAsnGluLysLysArgIleLeu-401

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AMPHI Regions - AMPHI

38-SerSerAlaSerSer-42
 54-SerAlaProAspAsnValLysGlnAla-62
 73-HisProAlaAlaGlyIleGlyAspLeuIleGlnGlnIleAlaGluHisIle-89
 112-GlyTyrAspAsnIleGlnArgLeu-119
 146-ThrArgThrIleSerArgGlnAlaGlnAspAla-156
 185-ProLysArgAlaArgTyrPhe-191
 209-GlyAsnPheGlnTyrIleGlyGlnLeuProGlyTyrLeuLysMetHisGlyGluMet-227

Antigenic Index - Jameson-Wolf

1-MetLysAsnLysThrSerSerLeu-8
 20-ArgSerProSerLysGluAspLysThrLysGluAsnGlyAla-33
 37-SerSerSerAlaSerSerAlaSerSerGlnThrAspLeuGlnPro-51
 54-SerAlaProAspAsnValLysGlnAlaGluSerAlaProLeuAsnCysThrGly-71
 86-AlaGluHisIleAspSerAspCys-93
 100-AsnGluLeuGluThrArgPhe-106
 108-LeuProGlyGlyGlyTyrAspAsnIleGln-117
 122-ProAspIleArgProGluAspProAspTyrHisGln-133
 140-GluAspLeuArgTyrGlyThrArgThrIleSerArgGlnAlaGln-154
 156-AlaIleMetGluGlnGluArgArgLeuArgGluAlaThr-168
 173-GlnGlySerGlnLysThrArgGlyGlnGlyGluGluProLysArgAlaArgTyr-190
 199-TyrLeuAsnArgHisAsnAsnGlyLeuGlyGlyAsn-210
 223-MetHisGlyGluMetLeuGluAsnGlnSerLeu-233
 235-ArgLeuSerAsnArgGluArgAsnProAspLysProPheLeu-248
 251-HisPheAspGluAsnGlyLysIleThr-259
 263-ValTyrGluLysAsnIle-268

Hydrophilic Regions - Hopp-Woods

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1-MetLysAsnLysThrSer-6
 20-ArgSerProSerLysGluAspLysThrLysGluAsnGlyAla-33
 39-SerAlaSerSerAlaSerSerGlnThrAspLeu-49
 54-SerAlaProAspAsnValLysGlnAlaGluSerAlaPro-66
 87-GluHisIleAspSer-91
 100-AsnGluLeuGluThr-104
 124-IleArgProGluAspProAspTyrHisGln-133
 140-GluAspLeuArgTyrGlyThr-146
 148-ThrIleSerArgGlnAlaGln-154
 156-AlaIleMetGluGlnGluArgArgLeuArgGluAlaThr-168
 174-GlySerGlnLysThrArgGlyGlnGlyGluGluProLysArgAlaArgTyr-190
 223-MetHisGlyGluMetLeuGlu-229
 236-LeuSerAsnArgGluArgAsnProAspLysProPhe-247
 251-HisPheAspGluAsnGlyLysIleThr-259

g691**AMPHI Regions - AMPHI**

11-LysProAlaAlaSer-15
 55-HisAsnGluLeuArgLysIleArgAla-63
 101-AlaArgAspTyrVal-105

Antigenic Index - Jameson-Wolf

7-CysArgPheAlaLys-11
 35-ProProAsnAspPheGlnProAsnCysAspIleArgArgLeuGlyLeuThrGlnGlyGlnHisAsnGluLeuA
 rgLysIleArgAla-63
 67-MetAlaGlyAspArgAlaArgLeuLysValMetHis-78
 80-GluHisSerArgArgArgSerVal-87
 91-IleSerSerAspValPheAsnArgAsnGluAlaArgAspTyrValGluSerArgTyrHisSerSerMet-113
 115-PheAlaValAspGluLeuGluIle-122
 131-ThrProGlnGlnGlnGln-136
 140-SerSerCysLeuLys-144

Hydrophilic Regions - Hopp-Woods

43-CysAspIleArgArgLeuGly-49
 54-GlnHisAsnGluLeuArgLysIleArgAla-63
 67-MetAlaGlyAspArgAlaArgLeuLysValMetHis-78
 80-GluHisSerArgArgArgSerVal-87
 95-ValPheAsnArgAsnGluAlaArgAspTyrValGlu-106
 115-PheAlaValAspGluLeuGluIle-122

g692**AMPHI Regions - AMPHI**

9-SerGluSerIleArgArgIleTrpArgAsnGlyArgGlu-21
 58-PheValAlaLeuGluAla-63
 77-LeuGlyTyrValPheLysProLeuAlaValPheVal-88
 106-GlnGlyPheGlyGlnLeuHis-112
 143-PheAspValPheGlnValPheArgAsp-151
 179-CysGluValGlyArgValValGlyArgGlyTyrGlyAlaAlaValPheAspPhePheGlnArgPheGlnPhe
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 205-IleGlnSerGlnArgArgGlyArgHisLeuGluGlyPheGlyAsp-219
 254-ValGlyLysPheAspGlnPheAspGlyVal-263
 275-PheAspHisIleAlaGluVal-281
 302-GlyGlyArgGlyCys-306

Antigenic Index - Jameson-Wolf

4-ThrArgCysArgCysSerGluSerIleArgArgIleTrpArgAsnGlyArgGluTrpArgIleLysGlyGlnLy
 sCysArgLeuAsnThrAspAlaValGln-37

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89-GlyGlyPheAspGlyArgProValAspIleGlyLysAlaArgLeuLeuGlu-105
 120-AlaValAspAspGlyLysIle-126
 136-CysGlyPheLysLeuAspAspPheAspVal-145
 150-ArgAspValGlyPheGlyCysGlyGlnArgIle-160
 177-GlyAlaCysGluValGlyArgValValGlyArgGlyTyr-189
 204-ArgIleGlnSerGlnArgArgGlyArgHisLeuGluGlyPheGlyAsp-219
 236-GluAspValAspVal-240
 256-LysPheAspGlnPheAspGlyVal-263
 282-AlaHisGlyArgAlaGluAspAspPhePhePhe-292
 296-ValIleGlyArgArgGlyGlyGlyArgGlyCysGlyArg-308
 316-GlyCysGluAspGluArgGluCysGlyGlyGlyLysGlyPheGluGlu-331

Hydrophilic Regions - Hopp-Woods

4-ThrArgCysArgCysSerGluSerIleArgArgIleTrpArgAsnGlyArgGluTrpArgIleLysGlyGlnLysCysArgLeuAsnThr-33
 91-PheAspGlyArgProValAspIleGlyLysAlaArgLeuLeuGlu-105
 120-AlaValAspAspGlyLysIle-126
 139-LysLeuAspAspPheAsp-144
 179-CysGluValGlyArgValValGly-186
 206-GlnSerGlnArgArgGlyArgHisLeuGluGlyPheGly-218
 236-GluAspValAspVal-240
 282-AlaHisGlyArgAlaGluAspAspPhePhePhe-292
 296-ValIleGlyArgArgGlyGlyGlyArgGlyCysGly-307
 316-GlyCysGluAspGluArgGluCysGlyGly-325
 327-LysGlyPheGluGlu-331

g694**AMPHI Regions - AMPHI**

13-LeuThrProAlaSerThr-18
 69-ArgGlyArgAlaCysArg-74
 88-GlnValGlyArgValVal-93
 103-CysArgHisPheAlaGln-108
 110-ValAlaValGlyArgIleGly-116
 139-ArgArgIleAlaAspValPheLeuVal-147
 149-IleAlaAspIleGlyGlu-154
 171-ArgGlyLeuAlaAspIleGlyGluPheValGlyValSerAsp-184
 194-PheAspGlnLysHisPheAlaArgCys-202
 238-HisGlnArgAlaSerArgIleLys-245
 270-ArgAlaArgArgHisPheArgGlnValPheAsp-280
 298-AspPheValAlaHisIle-303
 327-AlaAlaArgIleGlyLysAspAsp-334

Antigenic Index - Jameson-Wolf

34-GlyGlnAspGluHisAspAla-40
 45-ProProPheAlaHisGlyPhe-51
 53-ProProSerAlaTyrGlyCysGln-60
 63-ProHisGlnHisPheGlyArgGlyArgAlaCysArgTyr-75
 82-PheLysProArgAla-86
 97-ArgIleAspSerAlaArgCysArgHis-105
 113-GlyArgIleGlyArgThrAspHisAsnHisAsp-123
 130-LeuPheAspGlyGlyLeuProValGlyArgArgIleAla-142
 150-AlaAspIleGlyGluThrArgValGlnArgGlyAspAsp-162
 167-IleAspArgGluArgGlyLeuAlaAsp-175
 189-HisIleSerAspArgPheAspGlnLysHisPheAla-200
 202-CysLysLeuProHisArgAlaPheAsp-210
 214-ProLeuMetProAspHisAspAspPheThr-223

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237-ArgHisGlnArgAlaSerArgIleLysTyrProGluThrAlaLeu-251
 265-ArgIleAsnGlnCysArgAlaArgArgHisPhe-275
 278-ValPheAspLysHisArg-283
 303-IleAsnArgArgAlaGluPhe-309
 313-ThrPheAspAsnThrAspCysProIleHisThrGlyAlaGluAlaAlaArgIleGlyLysAspAspGlyPheSer-337
 344-ProCysSerAspGly-348
 356-LeuCysAspGlyArgTyrCysGlnAlaProProThrProHisArgArgArg-372

Hydrophilic Regions - Hopp-Woods

34-GlyGlnAspGluHisAspAla-40
 68-GlyArgGlyArgAlaCysArg-74
 82-PheLysProArgAla-86
 97-ArgIleAspSerAlaArgCysArgHis-105
 114-ArgIleGlyArgThrAspHisAsnHis-122
 137-ValGlyArgArgIleAla-142
 150-AlaAspIleGlyGluThrArgValGlnArgGlyAspAsp-162
 167-IleAspArgGluArgGlyLeuAlaAsp-175
 189-HisIleSerAspArgPheAspGlnLysHisPheAla-200
 202-CysLysLeuProHisArgAlaPhe-209
 217-ProAspHisAspAsp-221
 237-ArgHisGlnArgAlaSerArgIleLysTyrProGluThrAlaLeu-251
 267-AsnGlnCysArgAlaArgArgHisPhe-275
 278-ValPheAspLysHisArg-283
 303-IleAsnArgArgAlaGluPhe-309
 314-PheAspAsnThrAsp-318
 325-AlaGluAlaAlaArgIleGlyLysAspAspGlyPheSer-337
 367-ThrProHisArgArgArg-372

g695**AMPHI Regions - AMPHI**

34-GlnAsnSerGlnArg-38
 41-SerLysProAlaGluArgTyrAlaAspCysProHis-52
 83-AlaSerCysAlaSerValLeu-89
 128-ValArgLeuSerAsnGluVal-134
 157-ValGlnLysLeuAsp-161
 182-ValGluThrAlaGlnAsnLeuTyrAsnGlnAlaLeuLysHisTyrGlnAsnGly-199
 237-CysGluSerValIleGluIle-243
 247-TyrAlaAsnArgPheLysAspSer-254
 277-AlaArgAlaThrTrpArgSerLeuIleGlnThrTyrProGly-290

Antigenic Index - Jameson-Wolf

1-LeuProGlnThrArgProAlaArgArgHisHisArgHisArgGlnTyrPheValGluArgLysGlyAspAlaArgSerGlyPhe-28
 32-GlnCysGlnAsnSerGlnArgPheGlnSerLysProAlaGluArgTyrAlaAspCysProHisHisProAlaArgArgArgArgPheAspProAlaSerGluLysIleMetLysThrLys-71
 90-ProValProGluGlySerArgThrGluMetProThrGlnGluAsnAlaSerAspGlyIleProTyr-111
 116-LeuGlnAspArgLeuAspTyrLeuGlu-124
 126-LysIleValArgLeuSerAsnGluValGluMetLeuAsnGlyLysValLysAlaLeuGluHisThrLysIleHisProSerGlyArgThrTyrValGlnLysLeuAspAspArgLysLeuLysGlu-167
 169-TyrLeuAsnThrGluGlyGlySerAla-177
 192-AlaLeuLysHisTyrGlnAsnGlyArg-200
 208-LeuLysGlyAlaAspGlyGlyAspGlyGlySerIleAlaGln-221
 229-GlnSerArgAlaArgMetGlyAsnCys-237
 243-IleGlyGlyArgTyrAlaAsnArgPheLysAspSerProThrAla-257
 265-GlyGluCysGlnTyr-269

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271-LeuGlnGlnLysAspIleAla-277

288-TyrProGlySerProAlaAlaLysArgAlaAlaAlaAlaValArgLysArg-304

Hydrophilic Regions - Hopp-Woods

2-ProGlnThrArgProAlaArgArgHisHisArgHisArg-14

17-PheValGluArgLysGlyAspAlaArgSer-26

35-AsnSerGlnArgPheGlnSerLysProAlaGluArgTyrAlaAsp-49

51-ProHisHisProAlaArgArgArgPheAspProAlaSerGluLysIleMetLysThrLys-71

92-ProGluGlySerArgThrGluMetProThrGlnGluAsnAlaSerAsp-107

116-LeuGlnAspArgLeuAspTyrLeuGlu-124

126-LysIleValArgLeuSerAsnGluValGluMetLeuAsnGlyLysValLysAlaLeuGluHisThrLysIle
HisProSerGly-153

156-TyrValGlnLysLeuAspAspArgLysLeuLysGlu-167

209-LysGlyAlaAspGlyGlyAspGlyGlySerIleAlaGln-221

230-SerArgAlaArgMetGlyAsn-236

247-TyrAlaAsnArgPheLysAspSerProThrAla-257

265-GlyGluCysGlnTyr-269

271-LeuGlnGlnLysAspIleAla-277

292-ProAlaAlaLysArgAlaAlaAlaAlaValArgLysArg-304

g700**AMPHI Regions** - AMPHI

6-ThrLeuPheSerValLeuValProMetPheAlaGlyPhePheIleArgValProLys-24

51-ArgValGluAspLeuGlySerArg-58

80-AlaLeuAlaValLeuGlyLysLeu-87

189-GlyValSerTrpThrLysGlyLeu-196

204-TrpTyrSerLeuSerGlyLeuVal-211

216-TyrGlyAlaValTrp-220

228-AspLeuAlaArgGluLeu-233

268-GlyAlaGlyGlyLeu-272

Antigenic Index - Jameson-Wolf

21-ArgValProLysProTyrLeuProAlaSerAspLysVal-33

50-SerArgValGluAspLeuGlySerArgLeuGlyAsp-61

88-SerProTrpArgIleGlyGlyLysGlyLysGlyVal-99

103-ValSerGlySerValArg-108

118-ValSerGlyLysLeuMet-123

128-MetProSerGluAsnAlaGlyMet-135

149-LeuLysSerSerGlyValSerLeu-156

160-LeuLeuAsnArgArgGlyIleArgLeu-168

245-ArgPheProAspAla-249

268-GlyAlaGlyGlyLeu-272

Hydrophilic Regions - Hopp-Woods

29-AlaSerAspLysVal-33

50-SerArgValGluAspLeuGlySerArgLeuGlyAsp-61

92-IleGlyGlyLysGlyLysGlyVal-99

149-LeuLysSerSerGlyValSer-155

160-LeuLeuAsnArgArgGlyIleArg-167

g701**AMPHI Regions** - AMPHI

6-PheGlnValAlaGly-10

30-CysLeuGluThrSer-34

45-ProAsnSerPheAlaGlyPheLysArgPheSerSerIle-57

79-GlyProAlaProAlaMet-84

111-ArgAlaIleSerSerLeu-116

Antigenic Index - Jameson-Wolf

17-AlaGlnSerThrProSerSerProThrMet-26
 29-ThrCysLeuGluThrSerProGluAlaGly-38
 52-LysArgPheSerSer-56
 72-AsnLysAlaAspIleProThrGlyProAla-81
 104-GlyLysAlaSerLeuAsnSerArgAla-112
 119-SerCysGlyGlyThrArgLeu-125

Hydrophilic Regions - Hopp-Woods

72-AsnLysAlaAspIleProThr-78
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AMPHI Regions - AMPHI

51-CysSerGlyLeuValThrValProAla-59
 74-AlaSerSerProThrGlyValArgLysValIle-84

Antigenic Index - Jameson-Wolf

1-MetProCysSerLysAlaSerTrp-8
 10-SerProGlyValAla-14
 27-AlaLeuAlaArgAspSerCysLysProGlyLeu-37
 41-ThrAlaProAlaSerSer-46
 69-AlaIleArgArgMetAlaSerSerProThrGlyValArgLysValIleSer-85
 88-GlyMetProProSerThrArgAlaArgAspLysSerThrAla-101
 118-ArgIleSerArgGlyValSer-124

Hydrophilic Regions - Hopp-Woods

27-AlaLeuAlaArgAspSerCysLys-34
 69-AlaIleArgArgMetAlaSer-75
 78-ThrGlyValArgLysValIleSer-85
 91-ProSerThrArgAlaArgAspLysSerThrAla-101
 118-ArgIleSerArgGlyValSer-124

g703**AMPHI Regions - AMPHI**

21-GlnThrLeuAlaThrValAsnGly-28
 64-GluValValAsnThrValValAlaGlnGlu-73
 79-LeuAspArgSerAlaGlu-84
 136-GlnGluValLysAlaValTyrAspAsnIleSerGlyPheTyrLysGly-151
 181-PheAspAlaValLeu-185
 204-ValProLeuLysAspLeuGluGlnGlyValProProLeuTyrGlnAlaIleLysAspLeuLysLys-225
 252-ValProSerPheAsp-256
 270-ArgIleAspArgAlaValCys-276

Antigenic Index - Jameson-Wolf

1-MetLysAlaLysIle-5
 26-ValAsnGlyGlnLysIleAspSerSerVal-35
 43-PheArgAlaGluAsnSerArgAlaGluAspThrProGlnLeuArg-57
 72-GlnGluValLysArgLeuLysLeuAspArgSerAlaGluPheLysAspAlaLeuAlaLysLeuArgAlaGlu-
 1aLysLysSerGlyAspAspLysLysProSerPheLysThr-109
 129-LysThrGlnProValSerGluGlnGluValLysAlaValTyr-142
 144-AsnIleSerGlyPheTyrLysGlyThrGlnGluValGlnLeu-157
 160-IleLeuThrAspLysGluGluAsnAlaLysLysAlaValAlaAspLeuLysAlaLysLysGlyPhe-181
 188-TyrSerLeuAsnAspArgThrLysArgThrGlyAlaProAspGlyTyrValPro-205
 207-LysAspLeuGluGlnGlyValProPro-215
 221-LysAspLeuLysLysGlyGluPheThrAlaThrProLeuLysAsnGlyAspPhe-238
 243-TyrValAsnAspSerArgGluValLysValProSerPheAspGluMetLysGly-260

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266-LeuGlnAlaGluArgIleAspArgAlaVal-275

282-AlaAsnIleLysProAlaLys-288

Hydrophilic Regions - Hopp-Woods

1-MetLysAlaLysIle-5

29-GlnLysIleAspSerSerVal-35

43-PheArgAlaGluAsnSerArgAlaGluAspThrProGlnLeuArg-57

72-GlnGluValLysArgLeuLysLeuAspArgSerAlaGluPheLysAspAlaLeuAlaLysLeuArgAlaGluAlaLysLysSerGlyAspAspLysLysProSerPhe-107

131-GlnProValSerGluGlnGluValLysAlaValTyr-142

160-IleLeuThrAspLysGluGluAsnAlaLysLysAlaValAlaAspLeuLysAlaLysLysGlyPhe-181

189-SerLeuAsnAspArgThrLysArgThrGlyAla-199

207-LysAspLeuGluGln-211

221-LysAspLeuLysLysGlyGluPhe-228

245-AsnAspSerArgGluValLysValProSerPheAspGluMetLysGly-260

266-LeuGlnAlaGluArgIleAspArgAlaVal-275

282-AlaAsnIleLysProAlaLys-288

g704**AMPHI Regions - AMPHI**

36-AlaValAlaGlnSerIleIleAspSerGlyLeuGly-47

65-GlnGluIleLeuAspGlnIleArgLeuTyrAspLeuProGluValGlnSerAspPheValGluThrHis-87

184-LeuGlyMetMetGln-188

208-LeuGlnIleLeuHisTrpGlyGlyPheLeuMetValLeuPro-221

232-GlnGlyAlaLeuArgAspLeuLys-239

252-AlaIleIleMetThrPheIleAlaGlyIleTyrSer-263

289-PheMetGluHisIleAlaArg-295

298-AlaGlyAspAlaAlaGluArgLeuValLysLeuIleProAlaPheCysHisArgMetProGlyTyrProAlaValGlnAsp-324

326-ArgGluSerAlaValVal-331

400-GlyGlyThrArgLeuSerHisIleValArgLeuLeuAspArgAlaLeuAla-416

423-GluLeuAlaGluGlnTyr-428

499-AlaIleGluThrLeuSerGln-505

527-IleGluLeuLeuGlySerMet-533

574-GlnArgLeuAsnArgIleGlyGluGlyValGly-584

639-LeuLysAspSerAlaAlaGluAlaValArgGlnLeuAla-651

670-GluThrAlaArgAlaLeuGlyIle-677

691-GluTyrValGluAlaLeuGlnLysGlu-699

744-AspLeuArgThrValAlaHisLeuLeuAsp-753

780-AlaValLeuGlyTyrValGlnProTrpIleAlaAla-791

799-LeuAlaValLeuGly-803

Antigenic Index - Jameson-Wolf

1-MetLysLysThrCys-5

9-GlyLeuAspValProGluAsn-15

20-ValArgTyrGluGlyGluAspArgGluThrCysCysValGly-33

42-IleAspSerGlyLeuGlySerTyrTyrLysArgArgThrAlaAspAlaLysLysThrGluLeuProProGlnGluIleLeuAsp-69

77-ProGluValGlnSerAspPheValGluThrHisAsnGlyThrHis-91

112-GlnLeuLeuArgThrAspGlyIleVal-120

124-LeuAsnTyrSerThrHisArgCys-131

133-ValValTrpAspAspGlyLysIleArgLeu-142

149-IleArgGlnThrGlyTyr-154

158-ProTyrAspAlaGlnLysIleGluAlaAlaAsnGlnLysGluArgLysGlnTyr-175

199-TyrGlyGlyAspIleGluProAspPhe-207

234-AlaLeuArgAspLeuLysAsnArgArgAlaGlyMetAspThrPro-248

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293-IleAlaArgArgLysAlaGlyAspAlaAlaGluArgLeuVal-306
315-ArgMetProGlyTyr-319
323-GlnAspValArgGluSerAlaVal-330
342-LysProGlyGluThrIleProValAspGlyThrVal-353
355-GluGlyAsnSerAlaValAsnGluSer-363
365-LeuThrGlyGluSer-369
374-LysMetProSerGluLysValThrAla-382
393-IleArgThrAspArgThrGlyGlyGlyThrArg-403
414-AlaLeuAlaGlnLysProArgThrAlaGluLeuAlaGlu-426
486-ThrLeuAlaArgGluGlyIle-492
495-GlyGlyLysGlnAlaIle-500
510-IlePheAspLysThrGlyThrLeuThrGlnGlyAsnProAlaValArgArgIleGluLeu-529
544-SerLeuGluGlnGlnSerGluHisProLeu-553
561-ArgIleSerGlyGlySerValPro-568
571-GlnValGlyGlnArgLeuAsnArgIleGlyGluGlyVal-583
589-ValAsnGlyGluThr-593
605-AlaGluIleSerGlyLysGluProGlnThrGluGlyGlyGlySer-619
635-LeuGlnAspProLeuLysAspSerAlaAlaGluAlaValArg-648
650-LeuAlaGlyLysAsnLeu-655
659-IleLeuSerGlyAspArgGluGluAlaValAlaGluThrAlaArg-673
684-AlaMetProGluAspLysLeuGluTyr-692
694-GluAlaLeuGlnLysGluGlyLysLys-702
707-GlyAspGlyIleAsnAspAla-713
727-GlyGlyThrAspIleAlaArgAspGlyAlaAsp-737
743-GluAspLeuArgThr-747
753-AspGlnAlaArgArgThrArgHisIleIle-762
807-ArgLeuHisLysArgGlyGluMetProSerGluGln-818

Hydrophilic Regions - Hopp-Woods

1-MetLysLysThrCys-5
22-TyrGluGlyGluAspArgGluThrCys-30
50-TyrLysArgArgThrAlaAspAlaLysLysThrGluLeuProPro-64
77-ProGluValGlnSerAspPheValGlu-85
87-HisAsnGlyThrHis-91
112-GlnLeuLeuArgThrAspGlyIleVal-120
133-ValValTrpAspAspGlyLysIleArgLeu-142
160-AspAlaGlnLysIleGluAlaAlaAsnGlnLysGluArgLysGlnTyr-175
201-GlyAspIleGluProAspPhe-207
234-AlaLeuArgAspLeuLysAsnArgArgAlaGlyMet-245
293-IleAlaArgArgLysAlaGlyAspAlaAlaGluArgLeuVal-306
323-GlnAspValArgGluSerAlaVal-330
375-MetProSerGluLysValThr-381
393-IleArgThrAspArgThrGlyGlyGlyThrArg-403
414-AlaLeuAlaGlnLysProArgThrAlaGluLeuAlaGlu-426
486-ThrLeuAlaArgGluGlyIle-492
522-ProAlaValArgArgIleGluLeu-529
545-LeuGluGlnGlnSerGluHisProLeu-553
574-GlnArgLeuAsnArgIleGlyGlu-581
607-IleSerGlyLysGluProGlnThrGluGlyGlyGly-618
637-AspProLeuLysAspSerAlaAlaGluAlaValArg-648
661-SerGlyAspArgGluGluAlaValAlaGluThrAlaArg-673
684-AlaMetProGluAspLysLeuGluTyr-692
694-GluAlaLeuGlnLysGluGlyLysLys-702
730-AspIleAlaArgAspGlyAlaAsp-737
743-GluAspLeuArgThr-747

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753-AspGlnAlaArgArgThrArgHisIleIle-762
 807-ArgLeuHisLysArgGlyGluMetProSerGluGln-818
g705

AMPHI Regions - AMPHI

67-LysCysLeuLeuLysLeu-72
 104-AsnProIleProAla-108
 147-TyrMetGlnThrPheArgArgIleValAlaProGln-158
 169-AsnGluPheIleGlyLeuPheLysAsn-177
 183-ValValThrValThrGluLeuPheArgValAlaGln-194
 196-ThrAlaAsnArgThr-200

Antigenic Index - Jameson-Wolf

13-ThrGluThrArgAlaAspMet-19
 132-ValProLysGlyGlnTrpGlu-138
 165-ProProLeuSerAsnGlu-170
 193-AlaGlnGluThrAlaAsnArgThrTyrAsp-202
 226-AlaArgLeuGluLysArgPheAspArgTyrValAla-237

Hydrophilic Regions - Hopp-Woods

13-ThrGluThrArgAlaAspMet-19
 193-AlaGlnGluThrAlaAsnArgThr-200
 226-AlaArgLeuGluLysArgPheAspArgTyrValAla-237

g706**AMPHI Regions - AMPHI**

11-GlyArgTrpLeuAsnSerTyr-17
 24-ArgLeuIleHisAlaValArg-30
 39-ThrAlaLeuAlaArgLeuLeuHis-46
 70-IleTyrSerAsnAlaValGluArgMetLeuGlyThrValIleGly-84
 111-ThrAlaSerAlaLeuAlaGlyTrpAlaAla-120
 153-ArgAlaMetAsnValLeu-158
 183-LeuAlaAspAsnLeuAlaAspCysSerLysMetIleAlaGluIleSerAsnGlyArg-201
 241-SerMetMetGluAlaMetGlnHisAlaHisArgLysIleVal-254
 318-AlaLeuAlaGluHisLeuHis-324

Antigenic Index - Jameson-Wolf

1-MetAsnSerSerGlnArgLysArgLeuSerGlyArgTrpLeuAsnSerTyrGluArgTyrArgHisArgArgLeu-25
 30-ArgLeuGlyGlyThr-34
 71-TyrSerAsnAlaValGluArgMetLeu-79
 97-HisTyrPheHisGlyAsnLeu-103
 122-GlyLysAsnGlyTyrVal-127
 140-GlyAspAsnGlySerGluTrpLeuAsp-148
 186-AsnLeuAlaAspCysSerLysMetIleAlaGluIleSerAsnGlyArgArgMetThrArgGluArgLeuGluGlnAsnMetValLysMetArgGlnIleAsn-219
 221-ArgMetValLysSerArgSerHisLeuAlaAlaThrSerGlyGluSerArgIleSerProSerMet-242
 249-AlaHisArgLysIleValAsn-255
 266-LysLeuGlnSerProLysLeuAsnGlySerGluIleArgLeuLeuAsp-281
 289-ThrAspLeuGlnGln-293
 300-GlyArgHisAlaArgArgIleArgIleAspThrAlaIleAsnProGluLeuGluAlaLeuAla-320
 334-SerThrAsnMetArgGlnGluIle-341
 349-GlnArgThrArgArgLysTrpLeuAspAlaHisGluArgGlnHisLeu-364
 367-SerLeuLeuGluThrArgGluHisGly-375

Hydrophilic Regions - Hopp-Woods

3-SerSerGlnArgLysArgLeuSer-10

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17-TyrGluArgTyrArgHisArgArgLeu-25
 74-AlaValGluArgMetLeu-79
 142-AsnGlySerGluTrpLeu-147
 186-AsnLeuAlaAspCysSerLysMetIleAla-195
 198-SerAsnGlyArgArgMetThrArgGluArgLeuGluGlnAsnMetValLysMetArgGlnIleAsn-219
 221-ArgMetValLysSerArgSerHis-228
 232-ThrSerGlyGluSerArgIleSer-239
 249-AlaHisArgLysIleValAsn-255
 266-LysLeuGlnSerProLysLeuAsnGlySerGluIleArgLeuLeuAsp-281
 301-ArgHisAlaArgArgIleArgIle-308
 314-ProGluLeuGluAlaLeuAla-320
 336-AsnMetArgGlnGluIle-341
 349-GlnArgThrArgArgLysTrpLeuAspAlaHisGluArgGlnHisLeu-364
 367-SerLeuLeuGluThrArgGluHisGly-375
g707

AMPHI Regions - AMPHI

36-GlyIleGluLysMetAlaThrGln-43
 91-HisAlaGlyAspIleAsnGlnIleMetSerLeu-101
 116-IleLeuAlaAlaPro-120
 134-ProGlyTyrLeuArgSerIleArgIle-142
 168-AspLeuLeuAsnLeuArgAsp-174
 182-LeuLysCysLeuPro-186
 208-ValGlnTrpArgArgLeuLeuPro-215
 248-SerAspMetPheTyr-252
 256-GlyArgSerIleGlyGly-261
 301-ArgTyrHisGlnAlaValSerGlyLeuSerGluValTyrAsp-314
 368-TrpLeuAlaGluLeuSerHis-374
 393-ThrGlyMetLysAspAlaLeuArgAlaProGluGluAlaPheGlyGluGly-409
 440-HisAlaGlnTrpAsnLys-445
 542-LeuLysLysProGluTyrPhe-548

Antigenic Index - Jameson-Wolf

1-GluAlaValSerGlnGlnGlnAspIleLeuGlnArgGlnArgGluLysGlnLeuArgGluGlnMetGlnProGluGlnAspValArgLeuAspGlyThrAspThrGlyIleGluLysMetAla-41
 44-ValGlyGlyAlaAsnSerAspGluAlaSerProCys-55
 62-GluLeuValGlyGluGluAlaAlaLys-70
 120-ProGlnAspLeuAsnSerGlyLysLeu-128
 140-IleArgIleAspArgSerAsnAspAspGlnThrHis-151
 160-AsnLysPheProThrArgSerAsnAspLeuLeuAsn-171
 173-ArgAspLeuGluGlnGlyLeuGluAsn-181
 188-AlaGluAlaAspLeu-192
 196-ProValGluArgGluProAsnGlnSerAsp-205
 221-GlyMetAspAsnSerGlySerGluAlaThrGlyLysTyrGlnGly-235
 241-AlaAspAsnProPheGlyLeu-247
 255-TyrGlyArgSerIleGlyGlyThrProAspGluGluAsnPheAspGlyHisArgLysGluGlyGlySerAsn-278
 297-HisAsnGlyTyrArg-301
 311-GluValTyrAspTyrAsnGlyLysSerTyrAsnThrAspPheGlyPhe-326
 330-LeuTyrArgAspAlaLysArgLysThrTyrLeu-340
 345-TrpThrArgGluThrLysSerTyrIleAspAspAlaGluLeuThrValGlnArgArgLysThrThr-366
 372-LeuSerHisLysGlyTyrIleGlyArgSerThrAlaAspPheLysLeuLysTyrLysHisGlyThrGlyMetLysAspAlaLeuArgAlaProGluGluAlaPheGlyGluGlyThrSerArg-412
 419-SerAlaAspValAsnThrPro-425
 442-GlnTrpAsnLysThrProLeuThrSerGlnAspLysLeuAla-455

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460-HisThrValArgGlyPheAspGlyGluMetSerLeuProAlaGluArgGlyTrpTyrTrpArgAsnAspLeu
 SerTrpGlnPheLysProGlyHis-491
 503-SerGlyGlnSerAlaLys-508
 540-ArgAlaLeuLysLysProGluTyrPheGlnThrLysLysTrpValThr-555

Hydrophilic Regions - Hopp-Woods

1-GluAlaValSerGlnGlnGlnAspIleLeuGlnArgGlnArgGluLysGlnLeuArgGluGlnMetGlnProGlu
 uGlnAspValArgLeuAspGlyThrAspThrGlyIleGluLysMetAla-41
 47-AlaAsnSerAspGluAlaSer-53
 62-GluLeuValGlyGluGluAlaAlaLys-70
 121-GlnAspLeuAsnSerGlyLys-127
 140-IleArgIleAspArgSerAsnAspGlnThrHis-151
 162-PheProThrArgSerAsnAsp-168
 173-ArgAspLeuGluGlnGlyLeuGluAsn-181
 188-AlaGluAlaAspLeu-192
 196-ProValGluArgGluProAsnGlnSer-204
 222-MetAspAsnSerGlySerGluAlaThrGlyLysTyr-233
 259-IleGlyGlyThrProAspGluGluAsnPheAspGlyHisArgLysGluGlyGlySer-277
 313-TyrAspTyrAsnGly-317
 330-LeuTyrArgAspAlaLysArgLysThrTyrLeu-340
 345-TrpThrArgGluThrLysSerTyrIleAspAspAlaGluLeuThrValGlnArgArgLysThrThr-366
 381-SerThrAlaAspPheLysLeuLysTyrLysHis-391
 393-ThrGlyMetLysAspAlaLeuArgAlaProGluGluAlaPheGly-407
 447-ProLeuThrSerGlnAspLysLeuAla-455
 463-ArgGlyPheAspGlyGluMet-469
 540-ArgAlaLeuLysLysProGluTyrPheGln-549

g708**AMPHI Regions - AMPHI**

26-ProSerArgAlaGluLysAlaAsnGlnValSerAsnIle-38
 56-ThrAlaSerIleGluAspAlaLeuLysSerAsnPro-67
 79-IleTyrGlnTyrLeuLys-84
 89-AlaGlnGluSerPhe-93
 119-AsnArgProAlaGluSerMetAla-126
 128-PheAspLysAlaLeu-132
 142-IleAlaAsnLeuAsnLys-147
 176-ProAlaPheLysGluLeuAlaArg-183
 221-LysAlaLeuGlyAsnValGlnAla-228

Antigenic Index - Jameson-Wolf

2-ProPheLysProSerLysArgIleSer-10
 19-AlaCysSerThrSerTyrArgProSerArgAlaGluLysAlaAsnGln-34
 46-TyrMetArgGlyGlnAspTyrArgGlnAlaThrAlaSerIleGluAspAlaLeuLysSerAsnProLysAsnG
 luLeu-71
 84-LysValAsnAspLysAlaGlnGluSerPheArg-94
 97-LeuSerIleLysProAspSerAlaGluIleAsnAsnAsnTyrGlyTrp-112
 115-CysGlyArgLeuAsnArgProAlaGlu-123
 131-AlaLeuAlaAspProThrTyrProThr-139
 145-LeuAsnLysGlyIleCysSerAlaLysGlnGlyGln-156
 176-ProAlaPheLysGluLeuAlaArgThrLysMet-186
 191-LeuGlyAspAlaAspTyrTyrPheLysLysTyrGlnSerArgValGluValLeuGlnAlaAspAspLeu-21
 3
 240-PheProTyrSerGluGluLeuGln-247

Hydrophilic Regions - Hopp-Woods

4-LysProSerLysArgIle-9

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24-TyrArgProSerArgAlaGluLysAlaAsnGln-34
 46-TyrMetArgGlyGlnAspTyrArgGln-54
 56-ThrAlaSerIleGluAspAlaLeuLysSerAsnProLysAsnGlu-70
 84-LysValAsnAspLysAlaGlnGluSerPheArg-94
 99-IleLysProAspSerAlaGluIle-106
 117-ArgLeuAsnArgProAlaGlu-123
 149-IleCysSerAlaLysGlnGly-155
 177-AlaPheLysGluLeuAlaArgThrLysMet-186
 201-TyrGlnSerArgValGluValLeuGlnAlaAspAspLeu-213

g709**AMPHI Regions - AMPHI**

6-SerLeuLeuAspMetProArgGlyGlu-14
 18-ValValValAlaLeuIleAlaAlaMetGly-27
 37-ProHisMetSerIleIleAlaAlaIleValValLeu-48
 54-AlaArgGlyLeuLysTyr-59
 67-IleGlyAlaLeuAsnGlnGlyMet-74
 115-SerAlaPheAlaLeuCysSerVal-122
 130-SerLeuThrAlaCysAla-135
 171-ProLeuSerAspThr-175
 185-IleAspLeuPheGluHisIleLysAsnMetMetTyrThrThr-198
 221-LeuAsnSerValGluSerPheArg-228
 245-PheAlaLeuLeuValValLeu-251
 261-AlaMetLeuPheThrValIleAlaAlaValAlaValThrTyr-274
 278-ThrProAspLeuArgGlnLeuGlyAlaTrpPhe-288
 298-AlaPheLysAspIleAlaLysLeuIleSerArgGlyGly-310
 334-LeuGlyValIleProSerLeuLeuGluAlaValArgThrPheLeuThr-349
 382-ThrPheLysProVal-386
 396-AsnLeuSerArgThrLeuGluAspAlaGlyThrValIleAsnProLeuValProTrpSerValCysGlyVal
 PheIleSerHis-423

Antigenic Index - Jameson-Wolf

8-LeuAspMetProArgGlyGluAla-15
 55-ArgGlyLeuLysTyrAsnAspMetGln-63
 165-PheGlyAspLysMetSerProLeuSerAspThrThrGly-177
 222-AsnSerValGluSerPheArgSerGlnLeuGlu-232
 277-SerThrProAspLeuArgGln-283
 290-GlyGlyTyrLysLeuGluGlyGluAlaPheLysAspIleAlaLysLeuIleSerArgGlyGlyLeuGlu-31
 2
 349-ThrAsnAlaGlyArgAlaThr-355
 378-LeuSerGlyGluThrPheLysProValTyrAspLysLeuGly-391
 396-AsnLeuSerArgThrLeuGluAspAlaGlyThr-406

Hydrophilic Regions - Hopp-Woods

8-LeuAspMetProArgGlyGluAla-15
 57-LeuLysTyrAsnAsp-61
 167-AspLysMetSerProLeuSerAsp-174
 225-GluSerPheArgSerGlnLeuGlu-232
 279-ProAspLeuArgGln-283
 293-LysLeuGluGlyGluAlaPheLysAspIleAlaLysLeuIleSer-307
 399-ArgThrLeuGluAspAlaGly-405

g716**AMPHI Regions - AMPHI**

33-GlyValGlnLysSerAlaGlnGly-40
 81-AlaThrValLysLysAlaHisLysHisThrLysAla-92

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Antigenic Index - Jameson-Wolf

1-MetAsnLysAsnIle-5
 26-LysProAlaSerAsnAlaThrGlyValGlnLysSerAlaGlnGlySerCysGlyAlaSerLysSerAlaGluGlySerCysGlyAlaSerLysSerAlaGluGlySerCysGly-63
 65-AlaAlaSerLysAlaGlyGluGlyLysCysGlyGluGlyLysCysGlyAlaThrValLysLysAlaHisLysHisThrLysAlaSerLysAlaLysAlaLysSerAlaGluGlyLysCysGlyGluGlyLysCysGlySerLys-112

Hydrophilic Regions - Hopp-Woods

33-GlyValGlnLysSerAlaGln-39
 43-GlyAlaSerLysSerAlaGluGlySerCysGlyAlaSerLysSerAlaGluGlySerCys-62
 65-AlaAlaSerLysAlaGlyGluGlyLysCysGlyGluGlyLysCys-79
 81-AlaThrValLysLysAlaHisLysHisThrLysAlaSerLysAlaLysAlaLysSerAlaGluGlyLysCysGlyGluGlyLysCysGlySerLys-112

g717**AMPHI Regions - AMPHI**

87-AlaAlaIleAlaAla-91
 174-ThrAlaValTyrAlaLeuAlaAsn-181
 209-LeuHisArgGlyLeu-213
 223-SerLeuAlaTyrTrp-227
 241-AlaGlyLeuGluGlnLeuGly-247
 263-GlnSerIlePheSerThrValTrpThrProTyrIlePheArgAlaIleGluGlu-280
 305-ThrGlyIlePheSerProLeuAlaSer-313
 347-LeuAsnValValArgLysThr-353
 358-LeuAlaThrLeuGlyAlaLeuAla-365
 401-SerSerCysArgLeuTrpGlnProLeuLysArgLeu-412
 430-CysPheGlyThrPro-434
 442-GlyValTrpAlaAlaTyrLeuAlaGly-450
 457-LysAsnLeuHisLysLeuPheHisTyr-465

Antigenic Index - Jameson-Wolf

1-MetAspThrLysGlu-5
 32-ProAlaAspAspIleGlyArg-38
 69-AlaAspLysAspThrLeu-74
 95-SerArgProSerLeuProSerGluIle-103
 135-MetGluGlyArgAla-139
 192-AsnArgCysArgLeuLysAlaValArgArgAlaProPheSer-205
 231-SerAlaAspArgLeuPheLeu-237
 277-AlaIleGluGluAsnAlaThrProAlaArgLeu-287
 289-AlaThrAlaGluSer-293
 317-ProGluAsnTyrAla-321
 349-ValValArgLysThrArgProIleAla-357
 376-ProSerGlyGlyThrArgGlyAla-383
 398-LysThrGluSerSerCysArgLeu-405
 453-LeuArgHisArgLysAsnLeu-459

Hydrophilic Regions - Hopp-Woods

1-MetAspThrLysGlu-5
 69-AlaAspLysAspThrLeu-74
 135-MetGluGlyArgAla-139
 192-AsnArgCysArgLeuLysAlaValArgArgAlaPro-203
 277-AlaIleGluGluAsnAlaThrProAlaArgLeu-287
 289-AlaThrAlaGluSer-293
 349-ValValArgLysThrArgPro-355
 378-GlyGlyThrArgGly-382
 399-ThrGluSerSerCys-403

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453-LeuArgHisArgLysAsnLeu-459

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AMPHI Regions - AMPHI

11-SerPhePheAlaLeuValPheAla-18

39-AlaThrGluValProGluAsnPro-46

48-AlaPheValAlaLysLeuAlaArgLeuPheArgAsnAla-60

74-GluGluSerLeuAlaGlyAlaValAspAsp-83

167-HisGlyGluAsnTyrGluThr-173

198-GluAspValTyrGluHisCysLeuGlyCysTyrGlnMet-210

218-TyrArgAspValAlaAsn-223

235-SerAsnArgIleAlaSer-240

251-MetArgGluLeuMetProArg-257

355-GluLysGluValSerArgTyrAlaGluAlaAlaAlaArg-367

Antigenic Index - Jameson-Wolf

29-IleAsnProArgTrp-33

35-LeuSerAspThrAlaThrGluValProGluAsnProAsnAla-48

57-PheArgAsnAlaAspArgAla-63

67-ValLysGluSerMetArgThrGluGluSerLeu-77

80-AlaValAspAspGlyProLeuGlnSerGluLysAspTyr-92

98-ArgLeuSerArgLeuLysGluLysAlaLys-107

112-ThrGluGlnGluHisGlyGlu-118

125-TyrIleGlyGluGlyGly-130

136-LeuSerGlnArgSerProGluAlaPheVal-145

149-TyrLeuTyrArgAsnAspArgProPheSer-158

166-AlaHisGlyGluAsnTyrGluThrThrGlyGluTyrArgVal-179

182-GlnProAspGlySerVal-187

190-AlaAlaGlyArgGlyLysIleGlyGluAspValTyr-201

217-LysTyrArgAspValAlaAsnAspGluGlnLysValTrpAspPheArgGluGluSerAsnArgIleAlaSerAspSerArgAspTyrVal-246

250-AsnMetArgGluLeuMetProArgGlyMetLysAlaAsnSer-263

267-GlyTyrAspAlaAspGlyLeuProGlnLys-276

280-SerPheAspAsnGlyLysLysArgGlnSerPheGluTyrTyrLeuLysAsnGlyAsn-298

309-LeuLysAlaAspGlyValThr-315

329-LeuAspGlyGlyArgIleIleArgGluGluLysGlnGlyAspArgLeuProAspPhe-347

349-LeuAsnLeuGluAspLeuGluLysGluValSerArgTyrAlaGluAlaAlaAlaArgArgSerGlyGlyArgArgGlyLeuSerHis-377

Hydrophilic Regions - Hopp-Woods

38-ThrAlaThrGluValProGluAsnPro-46

57-PheArgAsnAlaAspArgAla-63

67-ValLysGluSerMetArgThrGluGluSerLeu-77

80-AlaValAspAspGlyProLeuGlnSerGluLysAspTyr-92

98-ArgLeuSerArgLeuLysGluLysAlaLys-107

112-ThrGluGlnGluHisGlyGlu-118

136-LeuSerGlnArgSerProGlu-142

151-TyrArgAsnAspArgProPhe-157

169-GluAsnTyrGluThrThrGlyGluTyr-177

190-AlaAlaGlyArgGlyLysIleGlyGluAspValTyr-201

217-LysTyrArgAspValAlaAsnAspGluGlnLysValTrpAspPheArgGluGluSerAsnArgIleAlaSerAspSerArgAsp-244

250-AsnMetArgGluLeuMetProArgGlyMetLys-260

268-TyrAspAlaAspGlyLeuPro-274

282-AspAsnGlyLysLysArgGlnSer-289

309-LeuLysAlaAspGlyValThr-315

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331-GlyGlyArgIleIleArgGluGluLysGlnGlyAspArgLeuPro-345
 349-LeuAsnLeuGluAspLeuGluLysGluValSerArgTyrAlaGluAlaAlaAlaArgArgSerGlyGlyArg
 ArgGlyLeuSer-376

g729

AMPHI Regions - AMPHI

21-CysThrMetIleProGlnTyr-27
 55-HisAspTyrPheAla-59
 61-ProArgLeuGlnLysLeuIleAspIle-69
 149-GlnGlyTyrPheAla-153
 242-LeuAlaThrLeuIleAsn-247
 250-IleProGluAspLeuProAla-256
 268-LysLeuProAlaGlyLeu-273
 321-GluLeuGlyGlyLeuPheLysSerGly-329
 371-ValGlnSerAlaPheGlnAspValAlaAsnAla-381
 388-LeuAspLysAlaTyrAspAlaLeuSerLysGlnSerArg-400
 419-GlyAlaLeuAspLeuLeuAspAlaGlu-427
 442-LeuThrArgAlaGluAsnLeuAlaAspLeuTyrLysAlaLeuAspGlyGlyLeu-459

Antigenic Index - Jameson-Wolf

25-ProGlnTyrGluGlnProLysValGluVal-34
 36-GluThrPheGlnAsnAspThrSerValSerSer-46
 53-GlyTrpHisAspTyrPheAlaAspProArgLeuGlnLys-65
 70-AlaLeuGluArgAsnThrSerLeuArgThr-79
 85-GluIleTyrArgLysGlnTyrMetIleGluArgAsnAsnLeuLeuPro-100
 106-AlaAsnGlySerArgGlnGlySerLeuSerGlyGlyAsnValSerSerSerTyrAsn-124
 138-GlyArgValArgSerAsnSerGluAlaAla-147
 156-AlaAsnArgAspAlaAla-161
 173-TyrPheAsnGluArgTyrAlaGluLysAlaMet-183
 188-ArgValLeuLysThrArgGluGluThrTyrLysLeuSerGluLeuArgTyr-204
 215-ArgGlnGlnGluAlaLeuIleGluSerAlaLysAlaAspTyr-228
 232-AlaArgSerArgGluGlnAlaArgAsn-240
 247-AsnArgProIleProGluAspLeuProAla-256
 277-ValLeuLeuAspArgProAspIleArgAlaAlaGluHisAlaLeuLysGlnAlaAsnAla-296
 310-ArgLeuThrGlySerValGlyThrGlySer-319
 326-PheLysSerGlyThr-330
 347-GlyThrAsnLysAlaAsnLeuAspValAlaLysLeuArgGlnGln-361
 383-AlaAlaArgGluGlnLeuAspLysAlaTyrAspAlaLeuSerLysGlnSerArgAlaSerLysGluAlaLeu
 Arg-407
 411-LeuArgTyrLysHisGlyValSer-418
 424-LeuAspAlaGluArgIleSerTyrSerAlaGluGly-435
 442-LeuThrArgAlaGluAsnLeu-448
 455-LeuAspGlyGlyLeuLysArgAspThrGlnThrGlyLys-467

Hydrophilic Regions - Hopp-Woods

28-GluGlnProLysValGluVal-34
 42-ThrSerValSerSer-46
 61-ProArgLeuGlnLys-65
 70-AlaLeuGluArgAsnThrSerLeu-77
 91-TyrMetIleGluArgAsnAsn-97
 107-AsnGlySerArgGlnGlySer-113
 138-GlyArgValArgSerAsnSerGluAlaAla-147
 156-AlaAsnArgAspAlaAla-161
 177-ArgTyrAlaGluLysAlaMet-183
 188-ArgValLeuLysThrArgGluGluThrTyrLys-198
 200-SerGluLeuArgTyr-204

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215-ArgGlnGlnGluAlaLeuIleGluSerAlaLysAlaAspTyr-228
 232-AlaArgSerArgGluGlnAlaArgAsn-240
 249-ProIleProGluAspLeuPro-255
 277-ValLeuLeuAspArgProAspIleArgAlaAlaGluHisAlaLeuLysGlnAlaAsn-295
 350-LysAlaAsnLeuAspValAlaLysLeuArgGln-360
 383-AlaAlaArgGluGlnLeuAspLysAlaTyrAspAlaLeuSerLysGlnSerArgAlaSerLysGluAlaLeu
 Arg-407
 424-LeuAspAlaGluArgIleSerTyr-431
 442-LeuThrArgAlaGluAsnLeu-448
 455-LeuAspGlyGlyLeuLysArgAspThrGlnThrGlyLys-467
g730

AMPHI Regions - AMPHI

6-ArgLeuThrAsnLeuLeuAlaCysAla-15
 26-LeuAlaAlaAspLeu-30
 67-LysIleAsnValIleGlnAspTyrThrHisGln-77
 111-AsnHisAlaAlaAsp-115
 141-HisProAlaAspAlaTyrAspGlyProLysGlyGlyAsnTyrProLysProThr-158
 187-GlnArgIlePheAspAsnTyrAsnAsnLeuGlySerAsnPheSerAspArgAlaAspGlu-206
 214-HisAsnAlaLysLeu-218
 220-ArgTrpGlyAsnSerMetGluPheValAsnGlyValAla-232
 234-GlyAlaLeuAsnProPheIleSer-241
 262-AlaAlaMetArgAsnIleAla-268
 277-AlaAlaIleGlyGlyLeuGlySerAla-285
 288-PheGluLysAsnThrArgGluAlaValAspArgTrpIleGlnGlu-302
 305-AsnAlaAlaGluThrValGluAlaLeuValAsnValLeuProPheAlaLysValLysAsnLeuThrLysAla
 AlaLysPro-331
 353-LeuValLysThrAlaAspGlyTyrLysAlaIleAlaHisIleGlnAla-368
 390-ArgTyrGlyAsnProTyr-395
 403-ValSerAspGlyIle-407
 434-LysAlaGlySerArgLeuLeuSerGluSer-443
 458-ProLeuLysAlaTyr-462
 510-AspSerHisArgSerValGlyAspSerAsnArgValValArgGluGlyLys-526
 553-GlnValThrGlnPheLys-558

Antigenic Index - Jameson-Wolf

2-LysProLeuArgArgLeuThr-8
 35-PheIleThrAspAsnThrGlnArgGlnHisTyrGluProGlyGlyLys-50
 55-GlyAspProArgGlySerValSerAspArgThrGlyLysIleAsnVal-70
 99-SerGlyHisGlyHisGluGluHisAlaProPheAsp-110
 112-HisAlaAlaAspSerAlaSerGluGluLysGlyAsnValAspAspGlyPhe-128
 133-LeuAsnTrpGluGlyHisGluHisHisProAlaAspAlaTyrAspGlyProLysGlyGlyAsnTyrProLys
 ProThrGlyAlaArgAspGluTyrThrTyrHisVal-168
 170-GlyThrAlaArgSerIleLysLeuAsnProThrAspThrArgSerIleArgGlnArgIle-189
 191-AspAsnTyrAsnAsnLeuGlySerAsnPheSerAspArgAlaAspGluAlaAsnArgLysMetPheGluHis
 AsnAlaLysLeuAspArgTrpGlyAsnSer-224
 257-TyrAlaIleAspLysAlaAlaMet-264
 271-ProAlaGluGlyLysPhe-276
 287-GlyPheGluLysAsnThrArgGluAlaValAsp-297
 299-TrpIleGlnGluAsnProAsnAlaAlaGluThrValGlu-311
 323-LysAsnLeuThrLysAlaAlaLysProGlyLysAlaAlaValSerGlyAspPheSerLysSerTyr-344
 355-LysThrAlaAspGlyTyrLys-361
 367-GlnAlaGlyAspArgValLeuSerLysAspGluAlaSerGlyGluThrGlyTyrLysProValThrAlaArg
 TyrGlyAsnProTyrGlnGlu-397
 403-ValSerAspGlyIleGlyAsnSer-410

-892-

422-TyrSerAspGlyLysTrpIleLysAlaGluAspLeuLysAlaGlySerArgLeuLeuSerGluSerGlyLys
ThrGlnThr-448
453-ValValLysProLysProLeuLys-460
474-ValLysGlyAsnGlnAlaGluThrGlu-482
487-HisAsnAspCysProProLysProLysProThrAsnHisAlaGlnGlnArgLysGluGluAlaLysAsnAsp
SerHisArgSerValGlyAspSerAsnArgValValArgGluGlyLysGlnTyrLeuAspSerAspThrGlyAsn-
535
538-TyrValLysGlyAspLysVal-544
547-LeuThrProAspGlyArgGlnValThrGlnPheLysAsnSerLysAlaAsnThrSerLysArgValLysAsn
GlyLysTrpThrProLys-576

Hydrophilic Regions - Hopp-Woods

2-LysProLeuArgArgLeuThr-8
39-AsnThrGlnArgGlnHisTyrGluProGlyGly-49
55-GlyAspProArgGlySerValSerAspArgThrGlyLys-67
102-GlyHisGluGluHisAlaPro-108
112-HisAlaAlaAspSerAlaSerGluGluLysGlyAsnValAspAspGly-127
135-TrpGluGlyHisGluHisHisPro-142
144-AspAlaTyrAspGlyProLysGlyGlyAsnTyrProLys-156
158-ThrGlyAlaArgAspGluTyr-164
170-GlyThrAlaArgSerIleLys-176
178-AsnProThrAspThrArgSerIleArgGlnArgIle-189
200-PheSerAspArgAlaAspGluAlaAsnArgLysMetPheGluHisAsnAlaLysLeuAspArgTrpGlyAsn
-223
257-TyrAlaIleAspLysAlaAlaMet-264
271-ProAlaGluGlyLysPhe-276
287-GlyPheGluLysAsnThrArgGluAlaValAsp-297
303-AsnProAsnAlaAlaGluThrValGlu-311
323-LysAsnLeuThrLysAlaAlaLysProGlyLysAlaAlaVal-336
355-LysThrAlaAspGlyTyrLys-361
368-AlaGlyAspArgValLeuSerLysAspGluAlaSerGlyGluThrGlyTyr-384
403-ValSerAspGlyIleGly-408
426-LysTrpIleLysAlaGluAspLeuLysAlaGlySer-437
439-LeuLeuSerGluSerGlyLysThrGlnThr-448
453-ValValLysProLysProLeuLys-460
477-AsnGlnAlaGluThrGlu-482
489-AspCysProProLysProLysProThrAsn-498
500-AlaGlnGlnArgLysGluGluAlaLysAsnAspSerHisArgSerValGlyAspSerAsnArgValValArg
GluGlyLysGlnTyrLeuAspSerAspThrGly-534
539-ValLysGlyAspLys-543
549-ProAspGlyArgGln-553
558-LysAsnSerLysAlaAsnThrSerLysArgValLysAsnGlyLysTrpThrPro-575
g731

AMPHI Regions - AMPHI

17-AlaCysAlaValProGluAlaTyrAspGlyGly-27
40-GlyProAspAspPheArgAlaPheSerCys-49

Antigenic Index - Jameson-Wolf

22-GluAlaTyrAspGlyGlyArgGlyTyr-31
33-ProProValGlnAsnGlnAlaGlyProAspAspPheArgAla-46
48-SerCysGluAsnGlyLeu-53
55-ValArgValArgAsnLeuAspGlyGlyLysIleAlaLeuArgLeuAspGlyArgArgAlaValLeuSerSerA
spValAlaAlaSerGlyGluArgTyrThrAla-89
92-GlyLeuPheGlyAsnGlyThrGluTrpHisGlnLysGlyGlyGluAla-107
113-AspAlaTyrGlyAsnSerValGluThrSerCysArgAlaArg-126

Hydrophilic Regions - Hopp-Woods

22-GluAlaTyrAspGlyGlyGly-28
 39-AlaGlyProAspAspPheArg-45
 55-ValArgValArgAsnLeuAspGlyGlyLysIleAlaLeuArgLeuAspGlyArgArgAlaValLeu-76
 80-ValAlaAlaSerGlyGluArgTyrThrAla-89
 100-TrpHisGlnLysGlyGlyGlu-106
 119-ValGluThrSerCysArgAlaArg-126

g732**AMPHI Regions - AMPHI**

14-LeuGlyAlaIleSer-18
 43-ValGlnSerIleArgThrMetAlaGluValTyrGly-54
 66-AspAlaAspLeuPheGluGlyAlaMetLysGlyMetVal-78
 95-GluIleLysGluSerThrSerGly-102
 115-AspGlyPheValLysValValSerProIleGluAsp-126
 155-GluAlaValLysLysMet-160
 183-ValAsnLeuThrArg-187
 214-GluArgThrValGluSerValAsnThrAlaAlaLys-225
 283-LysAlaValProGluAspTyrValTyr-291
 293-MetGlyGlyAspProLeuAlaGlyIleProAlaGluLeu-305
 322-SerGluIleValAlaGly-327
 400-LeuValGlyHisIleGlyAsn-406
 446-ArgArgIleProAsnProAlaLysAsp-454
 459-LysAlaLeuAspLeuValLysSerProGluGlnTrpGlnLysSerLeu-474

Antigenic Index - Jameson-Wolf

30-AlaAlaGluLysAspGlyArgAspAsnGluVal-40
 59-AsnTyrTyrHisAspLysProAspAlaAspLeuPhe-70
 82-AspProHisSerGluTyrMetAspLysLysGlyTyrAlaGluIleLysGluSerThrSerGlyGluPheGlyGly-106
 111-IleGlyGlnGluAspGlyPhe-117
 122-SerProIleGluAspThrProAlaGluArgAlaGluValLysSerGlyAspPhe-139
 144-AspAsnValSerThrArgGlyMetThr-152
 155-GluAlaValLysLysMetArgGlyLysProGlyThrLysIle-168
 172-LeuSerArgLysAsnAlaAspLysProIle-181
 199-LeuIleGluProAspTyrGlyTyr-206
 211-GlnPheGlnGluArgThrValGlu-218
 221-AsnThrAlaAlaLysGluLeuValLysGluAsnLysGlyLysProLeuLys-237
 242-AspLeuArgAspAspProGlyGlyLeu-250
 269-ValSerThrLysGlyArgAspGlyLysAspGlyMetVal-281
 284-AlaValProGluAspTyr-289
 293-MetGlyGlyAspPro-297
 303-AlaGluLeuLysThr-307
 316-SerGlySerAlaSerAla-321
 330-GlnAspHisLysArgAlaVal-336
 340-ThrGlnSerPheGlyLysGlySerVal-348
 354-LeuSerAsnGlySer-358
 368-TyrThrProAsnAspArgSerIleGln-376
 384-ValGluValLysAspLysGluArgThrPheGluSerArgGluAlaAspLeu-400
 405-GlyAsnProLeuGlyGlyGluAspValAsnSerGlu-416
 421-ProLeuGluLysAspAlaAspLysProAlaAlaLysGluLysGlyLysLysLysAspGluAspLeuSerArgArgIleProAsnProAlaLysAspAspGlnLeuArgLysAlaLeuAspLeuValLysSerProGluGlnTrpGlnLys-472
 477-AlaAlaLysLysProValSerAsnLysAspLysLysAspLysLys-491

Hydrophilic Regions - Hopp-Woods

30-AlaAlaGluLysAspGlyArgAspAsnGluVal-40
 50-TyrTyrHisAspLysProAspAlaAspLeuPhe-70
 82-AspProHisSerGluTyrMetAspLysLysGlyTyrAlaGluIleLysGluSerThrSerGlyGlu-103
 111-IleGlyGlnGluAspGlyPhe-117
 122-SerProIleGluAspThrProAlaGluArgAlaGluValLysSerGlyAspPhe-139
 144-AspAsnValSerThr-148
 155-GluAlaValLysLysMetArgGlyLysProGlyThr-166
 172-LeuSerArgLysAsnAlaAspLysProIle-181
 211-GlnPheGlnGluArgThrValGlu-218
 221-AsnThrAlaAlaLysGluLeuValLysGluAsnLysGlyLysProLeuLys-237
 242-AspLeuArgAspAspProGly-248
 271-ThrLysGlyArgAspGlyLysAspGlyMetVal-281
 303-AlaGluLeuLysThr-307
 330-GlnAspHisLysArgAlaVal-336
 370-ProAsnAspArgSerIleGln-376
 384-ValGluValLysAspLysGluArgThrPheGluSerArgGluAlaAspLeu-400
 408-LeuGlyGlyGluAspValAsnSer-415
 421-ProLeuGluLysAspAlaAspLysProAlaAlaLysGluLysGlyLysLysLysLysAspGluAspLeuSer
 SerArgArgIleProAsnProAlaLysAspAspGlnLeuArgLysAlaLeuAspLeuValLysSerProGluGlnT
 rpGln-471
 477-AlaAlaLysLysProValSerAsnLysAspLysLysAspLysLys-491

g733**AMPHI Regions - AMPHI**

6-ThrLeuGlyArgLeuSer-11
 16-ValLeuAlaLeuThrAla-21
 33-TyrGlyGlyTyrProAspThrValTyrGluGly-43
 53-LysGlnThrGluLysMetGluLysTyrPheAlaGluAlaAlaAsn-67
 92-GlyAlaPheArgGlnPheGluGlu-99

Antigenic Index - Jameson-Wolf

2-MetAsnProLysThrLeuGly-8
 23-AlaGlyGlyGlyHisLys-28
 32-TyrTyrGlyGlyTyrProAspThrValTyrGluGlyLeuLysAsnAspAspThrSerLeuGlyLysGlnThrG
 luLysMetGluLysTyrPhe-62
 65-AlaAlaAsnLysLysMetAsnAlaAlaProGlyAla-76
 84-LeuSerArgSerGlyAspLysGluGlyAlaPheArgGlnPheGluGluGluLysArgLeuPheProGlu-106
 115-MetLysThrGlyLysGlyGlyLysArg-123

Hydrophilic Regions - Hopp-Woods

40-ValTyrGluGlyLeuLysAsnAspAspThrSerLeuGlyLysGlnThrGluLysMetGluLysTyrPhe-62
 65-AlaAlaAsnLysLysMetAsnAla-72
 86-ArgSerGlyAspLysGluGlyAlaPheArgGlnPheGluGluGluLysArgLeuPhePro-105
 115-MetLysThrGlyLysGlyGlyLysArg-123

g734**AMPHI Regions - AMPHI**

26-TyrLeuAlaValTrpGlnAsnProGlnAspAlaAsnAspValLeuGlnVal-42
 53-GluAlaPheAlaGluLeuGluAlaPheCysLys-63
 77-ThrGlyCysArgSerValValSer-84
 92-LeuAlaTyrProLysAlaLeuGlyAlaMetArg-102
 113-ArgPheThrSerVal-117
 121-AlaLeuAsnGlnCysIleLysLys-128

Antigenic Index - Jameson-Wolf

31-GlnAsnProGlnAspAlaAsnAspValLeuGln-41

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43-LysThrThrLysGluAspSerAlaLysSerGluAlaPheAlaGlu-57
 60-AlaPheCysLysGlyGlnAspThr-67
 71-IleAlaGluAspGluProThrGlyCysArgSer-81
 101-MetArgValGluAsn-105
 111-SerProArgPheThrSer-116
 125-CysIleLysLysTyrGlyAlaGlnGly-133
 145-SerSerTyrTyrGly-149

Hydrophilic Regions - Hopp-Woods

34-GlnAspAlaAsnAsp-38
 43-LysThrThrLysGluAspSerAlaLysSerGluAlaPheAlaGlu-57
 60-AlaPheCysLysGlyGlnAspThr-67
 71-IleAlaGluAspGluProThrGlyCys-79
 101-MetArgValGluAsn-105
 125-CysIleLysLysTyrGlyAla-131

g736**AMPHI Regions - AMPHI**

13-GlyLeuIleGlnSerPheGlySer-20
 50-GlyValLeuSerVal-54
 61-GlyLeuPheValGly-65
 70-LeuGlnGlyTyrThrGlnLeuSerLysPheLysSerAlaAspIle-84
 93-LeuLeuArgGluLeuGlyProVal-100
 120-LeuMetLysThrThrGlyGlnLeuGluAlaMetAsnValMet-133
 135-ValAsnProValAlaArgValVal-142
 144-ProArgPheTrpAlaGlyValPheSerMetPro-154
 156-LeuAlaSerIlePheAsnValAlaGlyIlePheGlyAla-168
 196-AspValIleAsnGlyLeu-201
 230-LeuArgAlaSerThrArgThr-236

Antigenic Index - Jameson-Wolf

30-AlaLysSerGlyThrAlaPheAlaArgProArgLeuSerVal-43
 77-SerLysPheLysSer-81
 93-LeuLeuArgGluLeuGly-98
 109-SerAlaGlyGlyAlaMetThrSer-116
 186-GlnMetGlnAsnAsn-190
 224-ProThrSerGluGlyIleLeuArgAlaSerThr-234

Hydrophilic Regions - Hopp-Woods

37-AlaArgProArgLeuSerVal-43
 77-SerLysPheLysSer-81
 93-LeuLeuArgGluLeuGly-98

g737**AMPHI Regions - AMPHI**

56-AlaAlaTrpAlaArgValGlyGly-63

Antigenic Index - Jameson-Wolf

24-AlaHisHisAspGlyHisGlyAspAspHisGlyHis-36
 38-AlaHisGlnHisGlyLysGlnAspLysIleIleSer-49
 51-AlaGlnAlaGluLysAlaAla-57
 60-ArgValGlyGlyLysIleThrAspIleAspLeuGluHisAspAspGlyArgProHisTyrAspValGluIleValLysAsnGlyGlnGluTyr-90
 94-ValAspAlaArgThrGlyArgValIleSerSerArgArgAspAsp-108

Hydrophilic Regions - Hopp-Woods

27-AspGlyHisGlyAspAspHisGlyHis-36

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40-GlnHisGlyLysGlnAspLysIleIleSer-49
 51-AlaGlnAlaGluLysAlaAla-57
 61-ValGlyGlyLysIleThrAspIleAspLeuGluHisAspGlyArgProHisTyr-79
 82-GluIleValLysAsnGlyGlnGluTyr-90
 94-ValAspAlaArgThrGlyArg-100
 102-IleSerSerArgArgAspAsp-108
 g738

AMPHI Regions - AMPHI

91-LeuMetAsnLeuIleTyrProGlyMetAsnAspIleAla-103
 139-IleGlySerLeuLeuGlnSerCysIle-147
 201-LysIleProAlaAlaLeu-206
 228-ThrTyrIleAlaAlaIleAlaLeuIle-236
 271-AlaIleLeuGluThrPheThrGlyIle-279
 285-ValGluArgValAlaAsnGlyGlyPheThrAspLeuProArgGlnSer-300
 304-LysAlaLeuAlaAlaPheGlnSer-311
 316-GlyHisGlyTrpAsnSerPheAla-323
 338-AspAsnPheLeuSerThrLeuPheThr-346
 353-LeuGlnLeuLeuAlaGlu-358
 371-LeuLeuThrGlyIleAlaGlyLeuLeuLysArg-381
 398-MetCysHisSerMetLeu-403
 461-ArgLeuValAsnSerPheSerPro-468
 472-AspSerAlaLysThrLeuAsnArgLys-480
 482-AsnGluLeuArgTyrIleSer-488
 507-LeuProGluTyrProGluThr-513
 549-AlaLysGlnTrpMetArgAlaThr-556
 567-TyrAlaAspGluIleArgLysLeuProVal-576
 579-ProLeuLeuProGluLeuLeuLysAspCysLysAlaPheAlaAlaAlaPro-595

Antigenic Index - Jameson-Wolf

5-ThrThrValSerGlyAlaArgProAlaAla-14
 37-ArgLeuLysProSerProAspPheTyr-45
 62-AlaGlyLysLysLeuPheAsp-68
 124-TyrGlyGlnGluArgIle-129
 167-HisArgGlyGlnGly-171
 176-IleGlyGlnArgAsnAsnLeuGly-183
 196-LeuAsnGlyGlnArgLysIlePro-203
 242-PheArgSerAspLysSerAsnArgArgThrMet-252
 283-ThrAlaValGluArgValAlaAsnGlyGlyPheThrAspLeuProArgGlnSerGluTrpAsn-303
 316-GlyHisGlyTrpAsnSerPheAla-323
 335-ThrIleHisAspAsnPhe-340
 378-LeuLeuLysArgSerLeuThrProAlaSer-387
 424-ProAlaGluAlaSerAspGlyIleAlaPheLysLysAlaAla-437
 467-SerProAlaAlaAspAspSerAlaLysThrLeuAsnArgLysIleAsnGlu-483
 508-ProGluTyrProGluThrGlnThrTrpAlaGlu-518
 525-LeuLysTyrArgProTyrSerAla-532
 542-ArgGlnGlyLysValAlaGluAlaLysGlnTrpMet-553
 555-AlaThrGlnSerTyr-559
 566-ArgTyrAlaAspGluIleArgLys-573
 584-LeuLeuLysAspCysLysAla-590
 595-ProGlyHisProGluThrLysProCysLys-604

Hydrophilic Regions - Hopp-Woods

5-ThrThrValSerGlyAlaArgProAlaAla-14
 38-LeuLysProSerPro-42
 62-AlaGlyLysLysLeuPheAsp-68

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125-GlyGlnGluArgIle-129
 177-GlyGlnArgAsnAsn-181
 198-GlyGlnArgLysIlePro-203
 243-ArgSerAspLysSerAsnArgArgThrMet-252
 283-ThrAlaValGluArgValAla-289
 295-AspLeuProArgGlnSerGluTrpAsn-303
 378-LeuLeuLysArgSerLeuThr-384
 425-AlaGluAlaSerAsp-429
 431-IleAlaPheLysLysAlaAla-437
 468-ProAlaAlaAspAspSerAlaLysThrLeuAsnArgLysIleAsnGlu-483
 542-ArgGlnGlyLysValAlaGluAlaLysGlnTrpMet-553
 566-ArgTyrAlaAspGluIleArgLys-573
 584-LeuLeuLysAspCysLysAla-590
 596-GlyHisProGluThrLysProCysLys-604

g739**AMPHI Regions - AMPHI**

6-AsnLysProPheArgLeu-11
 53-HisThrAspSerPro-57
 88-GlnProAspGlyThrGlu-93
 116-AspAlaAlaArgAlaAlaAspSerLeuThrGlyThr-127
 131-AlaGluAsnThrLeu-135

Antigenic Index - Jameson-Wolf

1-MetAlaLysLysProAsnLysProPheArgLeuThrPro-13
 39-PheAsnProAsnGlyAspLysThrLeuGlnThrGluProGlnHisThrAspSerProArgGluThrGluPhe-62
 64-LeuProAsnGlyAlaValGlyGlnAspAlaAlaGlnProGluHisHisHis-80
 82-AlaSerSerGluProAlaGlnProAspGlyThrGluGluSerGlySerGlyLeuProSerProAlaAlaProLysLysAsnArgValLysProArgProSerAspAlaAlaArgAlaAlaAspSerLeuThrGlyThrGlyThrGlnAlaGluAsnThrLeuLysGluThrProVal-140
 142-ProThrAsnAlaProHisProGluProArgLysGluThrProGluLysGlnAlaGlnProLysGluThrProLysGluLysGluThrProLysGluAsnHisThrLysProAspThrProLysAsnThrProAlaLysProHisLysGluIleLeu-193

Hydrophilic Regions - Hopp-Woods

1-MetAlaLysLysProAsnLysProPheArgLeu-11
 41-ProAsnGlyAspLysThrLeuGlnThrGluProGlnHisThrAspSerProArgGluThrGlu-61
 69-ValGlyGlnAspAlaAlaGlnProGluHisHisHis-80
 82-AlaSerSerGluProAlaGlnProAspGlyThrGluGluSerGlySer-97
 103-AlaAlaProLysLysAsnArgValLysProArgProSerAspAlaAlaArgAlaAlaAspSerLeuThr-125
 129-ThrGlnAlaGluAsnThrLeuLysGluThrPro-139
 146-ProHisProGluProArgLysGluThrProGluLysGlnAlaGlnProLysGluThrProLysGluLysGluThrProLysGluAsnHisThrLysProAspThrProLysAsnThrProAlaLysProHisLysGluIleLeu-193

g740**AMPHI Regions - AMPHI**

6-LeuValArgTrpLeuAlaVal-12

57-IleLysHisHisLeu-61

Antigenic Index - Jameson-Wolf

25-AlaAsnProProGluAspLysProGln-33
 57-IleLysHisHisLeu-61
 63-GlnGlyPheAspLeuLysArgGlnThr-71

Hydrophilic Regions - Hopp-Woods

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27-ProProGluAspLysProGln-33
 57-IleLysHisHisLeu-61
 63-GlnGlyPheAspLeuLysArgGlnThr-71

g741**AMPHI Regions - AMPHI**

35-GlyThrGlyLeuAlaAspAlaLeuThrAla-44
 74-GlyAlaGluLysThrPheLysAlaGly-82
 138-LysIleAsnAsnProAspLysIleAspSerLeuIle-149
 164-ThrAlaPheAsnGlnLeuProAsp-171
 205-IleGluHisLeuLys-209

Antigenic Index - Jameson-Wolf

1-ValAsnArgThrThrPhe-6
 12-ThrAlaGlyProAspSerAspArgLeuGlnGlnArgArgGlyGlyGlyGlyVal-30
 46-LeuAspHisLysAspLysGlyLeuLys-54
 61-SerIleProGlnAsnGly-66
 73-GlnGlyAlaGluLysThrPheLysAlaGlyGlyLysAspAsnSerLeuAsnThrGlyLysLeuLysAsnAspLysIleSerArg-100
 107-IleGluValAspGlyGln-112
 123-IleTyrLysGlnAspHisSerAla-130
 135-ArgIleGluLysIleAsnAsnProAspLysIleAspSer-147
 149-IleAsnGlnArgSer-153
 157-SerAspLeuGlyGlyGluHisThr-164
 168-GlnLeuProAspGlyLysAlaGluTyrHisGly-178
 180-AlaPheSerSerAspAspAlaAspGlyLysLeu-190
 196-PheAlaAlaLysGlnGlyHisGlyLysIleGluHisLeuLysThrProGluGlnAsnVal-215
 218-AlaSerAlaGluLeuLysAlaAspGluLysSerHis-229
 234-GlyAspThrArgTyrGlyGlyGluGluLysGlyThrTyrArg-247
 251-PheGlyAspArgAlaGlnGluIleAlaGly-260
 265-LysIleGlyGluLysValHisGlu-272
 274-GlyIleAlaAspLysGln-279

Hydrophilic Regions - Hopp-Woods

13-AlaGlyProAspSerAspArgLeuGlnGlnArgArgGlyGlyGly-27
 46-LeuAspHisLysAspLysGlyLeuLys-54
 73-GlnGlyAlaGluLysThrPheLysAlaGlyGlyLysAspAsnSerLeuAsn-89
 91-GlyLysLeuLysAsnAspLysIleSerArg-100
 107-IleGluValAspGly-111
 135-ArgIleGluLysIleAsnAsnProAspLysIleAspSer-147
 170-ProAspGlyLysAlaGluTyrHisGly-178
 180-AlaPheSerSerAspAspAlaAspGlyLysLeu-190
 200-GlnGlyHisGlyLysIleGluHisLeuLysThrProGluGlnAsnVal-215
 218-AlaSerAlaGluLeuLysAlaAspGluLysSerHis-229
 236-ThrArgTyrGlyGlyGluGluLysGlyThrTyr-246
 252-GlyAspArgAlaGlnGluIleAlaGly-260
 265-LysIleGlyGluLysValHisGlu-272
 274-GlyIleAlaAspLysGln-279

g746**AMPHI Regions - AMPHI**

83-ThrAlaAlaAspLysProGlnAsp-90
 105-SerGluProGluAsn-109
 126-IleLysGlyLeuGluGluSerGluLysLeuGlnGlnAlaGlu-139
 154-GluLysValSerAlaThr-159
 164-AspThrValAlaValGlu-169
 171-ProLysArgThrAlaGluPro-177

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181-LysAlaGluArgThr-185
 195-ThrLysThrAlaGluLysValAlaAspLysProLys-206
 221-SerAlaValLysGluAlaLysLysAlaAspLysAlaGluGly-234
 249-GluThrAlaGlnLysThrAspLysAlaAspLysThrLysThrAlaGluLysGluLysSerGlyLysAla-271
 301-SerThrIleThrGluIleMetThr-308
 321-TyrLysAsnAlaArgAspAlaGluArgAspLeu-331

Antigenic Index - Jameson-Wolf

1-MetSerGluAsnLysGlnAsnGlu-8
 14-GluGlnLeuLysArgArgAsnArgArgLeuValThr-26
 42-LeuSerSerAspProAlaAspSerAsnProAlaProGlnAlaGlyGluThrGlyAlaThrGluSerGlnThrAlaAsnThrAlaGln-70
 76-SerAlaAlaGluAsnGlyGluThrAlaAlaAspLysProGlnAspLeuAlaGlyGluAspLysProSerAlaAlaAspSerGluIleSerGluProGluAsnVal-110
 118-AsnAspArgLeuGluAspSerAsnIleLysGlyLeuGluGluSerGluLysLeuGlnGlnAlaGluThrAlaLysThrGluProLysGlnAlaLysGlnArgAlaAlaGluLysValSerAlaThrAlaAspSerThrAspThrValAlaValGluLysProLysArgThrAlaGluProLysProGlnLysAlaGluArgThrAlaGluAlaLysProLysAlaLysGluThrLysThrAlaGluLysValAlaAspLysProLysThrAlaAlaGluLysThrLysProAspThrAlaLysSerAspSerAlaValLysGluAlaLysLysAlaAspLysAlaGluGlyLysLysThrAlaGluLysAspArgSerAspGlyLysLysHisGluThrAlaGlnLysThrAspLysAlaAspLysThrLysThrAlaGluLysGluLysSerGlyLysAlaGlyLysAlaAla-276
 280-GlyTyrAlaGluLysGluArgAlaLeuSerLeuGlnArgLysMetLysAlaAlaGlyIle-299
 306-IleMetThrAspAsnGlyLysValTyrArgValLysSerSerAsnTyrLysAsnAlaArgAspAlaGluArgAspLeuAsnLysLeuArgVal-336

Hydrophilic Regions - Hopp-Woods

1-MetSerGluAsnLysGlnAsnGlu-8
 14-GluGlnLeuLysArgArgAsnArgArgArgLeuVal-25
 42-LeuSerSerAspProAlaAspSerAsnPro-51
 54-GlnAlaGlyGluThrGlyAlaThrGluSerGlnThr-65
 76-SerAlaAlaGluAsnGlyGluThrAlaAlaAspLysProGlnAspLeuAlaGlyGluAspLysProSerAlaAlaAspSerGluIleSerGluProGluAsnVal-110
 119-AspArgLeuGluAspSerAsnIleLysGlyLeuGluGluSerGluLysLeuGlnGlnAlaGluThrAlaLysThrGluProLysGlnAlaLysGlnArgAlaAlaGluLysValSerAlaThrAlaAspSerThrAsp-164
 166-ValAlaValGluLysProLysArgThrAlaGluProLysProGlnLysAlaGluArgThrAlaGluAlaLysProLysAlaLysGluThrLysThrAlaGluLysValAlaAspLysProLysThrAlaAlaGluLysThrLysProAspThrAlaLysSerAspSerAlaValLysGluAlaLysLysAlaAspLysAlaGluGlyLysLysThrAlaGluLysAspArgSerAspGlyLysLysHisGluThrAlaGlnLysThrAspLysAlaAspLysThrLysThrAlaGluLysGluLysSerGlyLysAlaGlyLysLysAlaAla-276
 281-TyrAlaGluLysGluArgAlaLeuSerLeuGlnArgLysMetLysAlaAlaGlyIle-299
 306-IleMetThrAspAsnGlyLysValTyrArgValLysSerSerAsnTyrLysAsnAlaArgAspAlaGluArgAspLeuAsnLysLeuArgVal-336

g748**AMPHI Regions - AMPHI**

22-GlyAlaIleGlyAlaIleGlyGly-29
 37-GlyGluThrAlaGluArgThrAlaGluSerGlnHis-48
 82-SerAlaLysGlnLeuGluAsnLeuPheArgThrLeu-93
 155-LeuGlnGluMetArgAspPheProAsnAspLysLeuGlnLysSerTrp-170
 188-GlnThrAlaLeuArgAspIleIleLysHisThr-198
 250-GlyValAlaAlaAsnSer-255
 257-AspGluProGluTrp-261
 268-GlnAlaValArgLeuIleArgArgPheValGluPheTrpAspArg-282
 310-GlnProAspPheAlaLysAspProGlu-318
 330-LeuAlaAsnProArgAspProGlu-337

390-LeuGluGluTyrIleSerProPhe-397

Antigenic Index - Jameson-Wolf

1-MetSerGlnAsnGlnProAlaGlnProThrLysArgAsnLeuPhe-15
 30-TyrPheGlyGlyLysLysGlnGlyGluThrAlaGluArgThrAlaGluSerGlnHisSerProGlnAla-52
 80-AlaGlnSerAlaLysGlnLeuGluAsn-88
 101-ThrGlnGlyGlyGluTyrGlnAspGlyAspAspLysLeuProSerAlaGlySerGly-119
 125-PheAsnProAspGlyLeuThr-131
 139-SerLeuPheAspGlyArgPheGlyLeuLysAspLysLysThrValHis-154
 156-GlnGluMetArgAspPheProAsnAspLysLeuGlnLysSerTrpCysAspGlyAspLeuSer-176
 183-ThrProGluThrCys-187
 208-IleAspGlyTrpGlnProLysSerGluProGlyAlaMetAla-221
 226-LeuGlyPheArgAspGlyThrGlyAsnProLysValSerAspProLysThrAlaAspGlu-245
 255-SerLeuAspGluProGluTrpAlaLysAsnGlySerTyrGlnAla-269
 271-ArgLeuIleArgArgPhe-276
 279-PheTrpAspArgThrProLeuGlnGluGlnThrAspIlePheGlyArgArgLysTyrSerGlyAlaProMet
 AspGlyLysLysGluAlaAspGlnProAspPheAlaLysAspProGluGlyAspIleThrProLysAspSerHisM
 etArgLeuAlaAsnProArgAspProGluPheLeuLys-340
 348-AlaTyrSerTyrSerArgGlyProAlaSerSerGlyGlnLeu-361
 385-LeuAsnGlyGluProLeuGluGluTyr-393
 407-GlyValGlyLysGlyGlyPhe-413

Hydrophilic Regions - Hopp-Woods

8-GlnProThrLysArgAsnLeuPhe-15
 32-GlyGlyLysLysGlnGlyGluThrAlaGluArgThrAlaGluSerGlnHis-48
 80-AlaGlnSerAlaLysGlnLeuGluAsn-88
 104-GlyGluTyrGlnAspGlyAspAspLysLeuProSer-115
 145-PheGlyLeuLysAspLysLysThrValHis-154
 156-GlnGluMetArgAspPheProAsnAspLysLeuGlnLysSerTrpCysAspGlyAspLeu-175
 211-TrpGlnProLysSerGluProGlyAlaMetAla-221
 229-ArgAspGlyThrGlyAsnProLysValSerAspProLysThrAlaAsp-244
 255-SerLeuAspGluProGluTrpAlaLys-263
 271-ArgLeuIleArgArgPhe-276
 283-ThrProLeuGlnGluGlnThrAspIlePheGlyArgArgLysTyrSer-298
 301-ProMetAspGlyLysLysGluAlaAspGlnProAspPheAlaLysAspProGluGlyAspIleThrProLys
 AspSerHisMet-328
 331-AlaAsnProArgAspProGluPheLeuLys-340
 353-ArgGlyProAlaSer-357
 388-GluProLeuGluGluTyr-393
 g749

AMPHI Regions - AMPHI

1-MetArgLysPheAsnLeuThrAlaLeuSerValMetLeuAlaLeuGlyLeuThrAlaCysGlnProProGluAl
 aGlyLysAlaAlaProAlaAlaSerGlyGluThrGlnSerAlaAsnGluGlyGlySerValGlyIleAlaValAsn
 AspAsnAlaCysGluProMetAsnLeuThrValProSerGlyGlnValValPheAsnIleLysAsnAsnSerGlyA
 rgLysLeuGluTrpGluIleLeuLysGlyValMetValValAspGluArgGluAsnIleAlaProGlyLeuSerAs
 pLysMetThrValThrLeuLeuProGlyGluTyrGluMetThrCysGlyLeuLeuThrAsnProArgGlyLysLeu
 ValValAlaAspSerGlyPheLysAspThrAlaAsnGluAlaAspLeuGluLysLeuProGlnProLeuAlaAspT
 yrLysAlaTyrValGlnGlyGluValLysGluLeuAlaAlaLysThrLysThrPheThrGluAlaValLysAlaGl
 yAspIleGluLysAlaLysSerLeuPheAlaThrArgValHisTyrGluArgIleGluProIleAlaGluLeu
 PheSerGluLeuAspProValIleAspAlaCysGluAspAspPheLysAspGlyAlaLysAspAlaGlyPheThrG
 lyPheHisArgIleGluHisAlaLeuTrpValGluLysAspValSerGlyValLysGluThrAlaAlaLysLeuMe
 tThrAspValGluAlaLeuGlnLysGluIleAspAlaLeuAlaPheProProGlyLysValValGlyGlyAlaSer
 GluLeuIleGluGluAlaAlaGlySerLysIleSerGlyGluGluAspArgTyrSerHisThrAspLeuSerAspP
 heGlnAlaAsnAlaAspGlySerLysLysIleValAspLeuPheArgProLeuIleGluAlaLysAsnLysAlaLe
 uLeuGluLysThrAspThrAsnPheLysGlnValAsnGluIleLeuAlaLysTyrArgThrLysAspGlyPheGlu

ThrTyrAspLysLeuSerGluAlaAspArgLysAlaLeuGlnAlaProIleAsnAlaLeuAlaGluAspLeuAlaGlnLeuArgGlyIleLeuGlyLeuLys-388

Antigenic Index - Jameson-Wolf

1-MetArgLysPheAsnLeuThrAlaLeuSerValMetLeuAlaLeuGlyLeuThrAlaCysGlnProProGluAlaGluLysAlaAlaProAlaAlaSerGlyGluThrGlnSerAlaAsnGluGlyGlySerValGlyIleAlaValAsnAspAsnAlaCysGluProMetAsnLeuThrValProSerGlyGlnValValPheAsnIleLysAsnAsnSerGlyArgLysLeuGluTrpGluIleLeuLysGlyValMetValValAspGluArgGluAsnIleAlaProGlyLeuSerAspLysMetThrValThrLeuLeuProGlyGluTyrGluMetThrCysGlyLeuLeuThrAsnProArgGlyLysLeuValValAlaAspSerGlyPheLysAspThrAlaAsnGluAlaAspLeuGluLysLeuProGlnProLeuAlaAspTyrLysAlaTyrValGlnGlyGluValLysGluLeuAlaAlaLysThrLysThrPheThrGluAlaValLysAlaGlyAspIleGluLysAlaLysSerLeuPheAlaAlaThrArgValHisTyrGluArgIleGluProIleAlaGluLeuPheSerGluLeuAspProValIleAspAlaCysGluAspAspPheLysAspGlyAlaLysAspAlaGlyPheThrGlyPheHisArgIleGluHisAlaLeuTrpValGluLysAspValSerGlyValLysGluThrAlaAlaLysLeuMetThrAspValGluAlaLeuGlnLysGluIleAspAlaLeuAlaPheProProGlyLysValValGlyLysAlaSerGluLeuIleGluGluAlaAlaGlySerLysIleSerGlyGluGluAspArgTyrSerHisThrAspLeuSerAspPheGlnAlaAsnAlaAspGlySerLysLysIleValAspLeuPheArgProLeuIleGluAlaLysAsnLysAlaLeuLysGluLysThrAspThrAspPheLysGlnValAsnGluIleLeuAlaLysTyrArgThrLysAspGlyPheGluThrTyrAspLysLeuSerGluAlaAspArgLysAlaLeuGlnAlaProIleAsnAlaLeuAlaGluAspLeuAlaGlnLeuArgGlyIleLeuGlyLeuLys-388

Hydrophilic Regions - Hopp-Woods

1-MetArgLysPheAsnLeuThrAlaLeuSerValMetLeuAlaLeuGlyLeuThrAlaCysGlnProProGluAlaGluLysAlaAlaProAlaAlaSerGlyGluThrGlnSerAlaAsnGluGlyGlySerValGlyIleAlaValAsnAspAsnAlaCysGluProMetAsnLeuThrValProSerGlyGlnValValPheAsnIleLysAsnAsnSerGlyArgLysLeuGluTrpGluIleLeuLysGlyValMetValValAspGluArgGluAsnIleAlaProGlyLeuSerAspLysMetThrValThrLeuLeuProGlyGluTyrGluMetThrCysGlyLeuLeuThrAsnProArgGlyLysLeuValValAlaAspSerGlyPheLysAspThrAlaAsnGluAlaAspLeuGluLysLeuProGlnProLeuAlaAspTyrLysAlaTyrValGlnGlyGluValLysGluLeuAlaAlaLysThrLysThrPheThrGluAlaValLysAlaGlyAspIleGluLysAlaLysSerLeuPheAlaAlaThrArgValHisTyrGluArgIleGluProIleAlaGluLeuPheSerGluLeuAspProValIleAspAlaCysGluAspAspPheLysAspGlyAlaLysAspAlaGlyPheThrGlyPheHisArgIleGluHisAlaLeuTrpValGluLysAspValSerGlyValLysGluThrAlaAlaLysLeuMetThrAspValGluAlaLeuGlnLysGluIleAspAlaLeuAlaPheProProGlyLysValValGlyGlyAlaSerGluLeuIleGluGluAlaAlaGlySerLysIleSerGlyGluGluAspArgTyrSerHisThrAspLeuSerAspPheGlnAlaAsnAlaAspGlySerLysLysIleValAspLeuPheArgProLeuIleGluAlaLysAsnLysAlaLeuLysGluLysThrAspThrAspPheLysGlnValAsnGluIleLeuAlaLysTyrArgThrLysAspGlyPheGluThrTyrAspLysLeuSerGluAlaAspArgLysAlaLeuGlnAlaProIleAsnAlaLeuAlaGluAspLeuAlaGlnLeuArgGlyIleLeuGlyLeuLys-388

g750

AMPHI Regions - AMPHI

1-ValLysProArgPheTyrTrpAlaCysAlaValLeuProAlaAlaCysSerProGluProAlaAlaGluLysThrValSerAlaAlaSerGlnAlaAlaSerThrProValAlaThrLeuThrValProThrAlaArgGlyAspAlaValValProLysAsnProGluArgValAlaValTyrAspTrpAlaAlaLeuAspThrLeuThrGluProGlyValAlaAsnValGlyAlaThrThrAlaProValArgValAspTyrLeuGlnProAlaPheAspLysAlaAlaThrValGlyThrLeuPheGluProAspCysGluSerLeuHisArgHisAsnProGlnPheValIleThrGlyGlyProGlyAlaGluAlaTyrGluGlnLeuAlaLysAsnAlaThrThrIleAspLeuThrValAspAsnGlyAsnIleArgThrSerGlyGluLysGlnMetGluThrLeuSerArgIlePheGlyLysGluAlaArgValAlaLeuAsnAlaGlnIleAspAlaLeuPheAlaGlnLysArgGluAlaAlaLysGlyArgGlyLeuValLeuSerValThrGlyAsnLysValSerAlaPheGlyThrGlnSerArgLeuAlaSerTrpIleHisGlyAspIleGlyLeuProProValAspGluSerLeuArgAsnGluGlyHisGlyGlnProValSerPheGluTyrIleLysGluLysAsnProGlyTrpIlePheIleIleAspArgThrAlaAlaIleGlyGlnGluGlyProAlaAlaValGluValLeuAspAsnAlaLeuValCysGlyThrAsnAlaTrpLysArgLysGlnIleIleValMetProAlaAlaAsnTyrIleValAlaGlyGlyAlaArgGlnLeuIleGlnAlaAlaGluGlnLeuLysAlaAlaPheGluLysAlaGluProValAlaAlaGln-323

Antigenic Index - Jameson-Wolf

-902-

1-ValLysProArgPheTyrTrpAlaAlaCysAlaValLeuProAlaAlaCysSerProGluProAlaAlaGluLy
sThrValSerAlaAlaSerGlnAlaAlaSerThrProValAlaThrLeuThrValProThrAlaArgGlyAspAla
ValValProLysAsnProGluArgValAlaValTyrAspTrpAlaAlaLeuAspThrLeuThrGluProGlyValA
snValGlyAlaThrThrAlaProValArgValAspTyrLeuGlnProAlaPheAspLysAlaAlaThrValGlyTh
rLeuPheGluProAspCysGluSerLeuHisArgHisAsnProGlnPheValIleThrGlyGlyProGlyAlaGlu
AlaTyrGluGlnLeuAlaLysAsnAlaThrThrIleAspLeuThrValAspAsnGlyAsnIleArgThrSerGlyG
luLysGlnMetGluThrLeuSerArgIlePheGlyLysGluAlaArgValAlaGluLeuAsnAlaGlnIleAspAl
aLeuPheAlaGlnLysArgGluAlaAlaLysGlyLysGlyArgGlyLeuValLeuSerValThrGlyAsnLysVal
SerAlaPheGlyThrGlnSerArgLeuAlaSerTrpIleHisGlyAspIleGlyLeuProProValAspGluSerL
euArgAsnGluGlyHisGlyGlnProValSerPheGluTyrIleLysGluLysAsnProGlyTrpIlePheIleI
eAspArgThrAlaAlaIleGlyGlnGluGlyProAlaAlaValGluValLeuAspAsnAlaLeuValCysGlyThr
AsnAlaTrpLysArgLysGlnIleIleValMetProAlaAlaAsnTyrIleValAlaGlyGlyAlaArgGlnLeuI
leGlnAlaAlaGluGlnLeuLysAlaAlaPheGluLysAlaGluProValAlaAlaGln-323

Hydrophilic Regions - Hopp-Woods

1-ValLysProArgPheTyrTrpAlaAlaCysAlaValLeuProAlaAlaCysSerProGluProAlaAlaGluLy
sThrValSerAlaAlaSerGlnAlaAlaSerThrProValAlaThrLeuThrValProThrAlaArgGlyAspAla
ValValProLysAsnProGluArgValAlaValTyrAspTrpAlaAlaLeuAspThrLeuThrGluProGlyValA
snValGlyAlaThrThrAlaProValArgValAspTyrLeuGlnProAlaPheAspLysAlaAlaThrValGlyTh
rLeuPheGluProAspCysGluSerLeuHisArgHisAsnProGlnPheValIleThrGlyGlyProGlyAlaGlu
AlaTyrGluGlnLeuAlaLysAsnAlaThrThrIleAspLeuThrValAspAsnGlyAsnIleArgThrSerGlyG
luLysGlnMetGluThrLeuSerArgIlePheGlyLysGluAlaArgValAlaGluLeuAsnAlaGlnIleAspAl
aLeuPheAlaGlnLysArgGluAlaAlaLysGlyLysGlyArgGlyLeuValLeuSerValThrGlyAsnLysVal
SerAlaPheGlyThrGlnSerArgLeuAlaSerTrpIleHisGlyAspIleGlyLeuProProValAspGluSerL
euArgAsnGluGlyHisGlyGlnProValSerPheGluTyrIleLysGluLysAsnProGlyTrpIlePheIleI
eAspArgThrAlaAlaIleGlyGlnGluGlyProAlaAlaValGluValLeuAspAsnAlaLeuValCysGlyThr
AsnAlaTrpLysArgLysGlnIleIleValMetProAlaAlaAsnTyrIleValAlaGlyGlyAlaArgGlnLeuI
leGlnAlaAlaGluGlnLeuLysAlaAlaPheGluLysAlaGluProValAlaAlaGln-323

g760

AMPHI Regions - AMPHI

1-AsnAsnArgAsnThrArgTyrAlaAlaLeuGlyLysArgValMetGluGlyValGluThrGluIleSerGlyAl
aIleThrProLysTrpGlnIleHisAlaGlyTyrSerTyrLeuHisSerGlnIleLysThrAlaAlaAsnProArg
AspAspGlyIlePheLeuLeuValProLysHisSerAlaAsnLeuTrpThrThrTyrGlnValThrProGlyLeuT
hrValGlyGlyGlyValAsnAlaMetSerGlyIleThrSerSerAlaGlyMetHisAlaGlyGlyTyrAlaThrPh
eAspAlaMetAlaAlaTyrArgPheThrProLysLeuLysLeuGlnIleAsnAlaAspAsnIlePheAsnArgHis
TyrTyrAlaArgValGlyGlyThrAsnThrPheAsnIleProGlySerGluArgSerLeuThrAlaAsnLeuArgT
yrSerPhe-154

Antigenic Index - Jameson-Wolf

1-AsnAsnArgAsnThrArgTyrAlaAlaLeuGlyLysArgValMetGluGlyValGluThrGluIleSerGlyAl
aIleThrProLysTrpGlnIleHisAlaGlyTyrSerTyrLeuHisSerGlnIleLysThrAlaAlaAsnProArg
AspAspGlyIlePheLeuLeuValProLysHisSerAlaAsnLeuTrpThrThrTyrGlnValThrProGlyLeuT
hrValGlyGlyGlyValAsnAlaMetSerGlyIleThrSerSerAlaGlyMetHisAlaGlyGlyTyrAlaThrPh
eAspAlaMetAlaAlaTyrArgPheThrProLysLeuLysLeuGlnIleAsnAlaAspAsnIlePheAsnArgHis
TyrTyrAlaArgValGlyGlyThrAsnThrPheAsnIleProGlySerGluArgSerLeuThrAlaAsnLeuArgT
yrSerPhe-154

Hydrophilic Regions - Hopp-Woods

1-AsnAsnArgAsnThrArgTyrAlaAlaLeuGlyLysArgValMetGluGlyValGluThrGluIleSerGlyAl
aIleThrProLysTrpGlnIleHisAlaGlyTyrSerTyrLeuHisSerGlnIleLysThrAlaAlaAsnProArg
AspAspGlyIlePheLeuLeuValProLysHisSerAlaAsnLeuTrpThrThrTyrGlnValThrProGlyLeuT
hrValGlyGlyGlyValAsnAlaMetSerGlyIleThrSerSerAlaGlyMetHisAlaGlyGlyTyrAlaThrPh
eAspAlaMetAlaAlaTyrArgPheThrProLysLeuLysLeuGlnIleAsnAlaAspAsnIlePheAsnArgHis
TyrTyrAlaArgValGlyGlyThrAsnThrPheAsnIleProGlySerGluArgSerLeuThrAlaAsnLeuArgT
yrSerPhe-154

-903-

g767

AMPHI Regions - AMPHI

41-GlyLysIleGluValLeuGluPhePheGlyTyrPheCysVal-54
 89-GlyLeuAlaArgMetAlaAlaAlaValLys-98
 140-LysLysLeuMetArgAlaTyrAspSerProGlu-150
 160-LysLeuThrGluGlnTyr-165
 187-PheAspGlyGlyValHisThrIleLysGluLeuValAla-199

Antigenic Index - Jameson-Wolf

23-ThrGluGlyGluAspTyrLeuVal-30
 32-AspLysProIleProGlnGluGlnProGlyLysIleGluVal-45
 66-LeuGlyLysAlaLeuProSerAspThrTyrLeuArg-77
 99-LeuSerGlyLeuLysTyrGlnAla-106
 115-TyrGluGlnLysIleArgLeuGluAsnArgAlaValAla-127
 132-LeuSerGlnLysGlyPheAspGlyLysLysLeuMetArgAlaTyrAspSerProGluAla-151
 157-LysMetGlnLysLeuThrGluGlnTyrGlyIleAspSerThrPro-171
 175-ValGlyGlyLysTyrArgVal-181
 183-PheAsnAsnGlyPheAspGlyGly-190
 197-LeuValAlaLysValArgGluGluArgLysArgGlnThrProAlaValGlnLys-214

Hydrophilic Regions - Hopp-Woods

23-ThrGluGlyGluAsp-27
 33-LysProIleProGlnGluGlnProGlyLysIleGluVal-45
 115-TyrGluGlnLysIleArgLeuGluAsnArgAlaValAla-127
 135-LysGlyPheAspGlyLysLysLeuMetArgAlaTyrAspSerProGluAla-151
 157-LysMetGlnLysLeuThrGlu-163
 197-LeuValAlaLysValArgGluGluArgLysArgGlnThrProAlaValGlnLys-214

g768

AMPHI Regions - AMPHI

1-MetAsnIleLysGlnLeuIleThrAlaAlaLeuIleAlaSerAlaAlaPheAlaThrGlnAlaAlaProGlnLysProValSerAlaAlaGlnThrAlaGlnHisSerAlaValTrpIleAspValArgSerGluGlnGluPheSerGluGlyHisLeuHisAsnAlaValAsnIleProValAspGlnIleValArgArgIleTyrGluAlaAlaProAspLysAspThrProValAsnLeuTyrCysArgSerGlyArgArgAlaGluAlaAlaLeuGlnGluLeuLysLysAlaGlyTyrrThrAsnValAlaAsnHisGlyGlyTyrGluAspLeuLeuLysLysGlyMetLys-119

Antigenic Index - Jameson-Wolf

1-MetAsnIleLysGlnLeuIleThrAlaAlaLeuIleAlaSerAlaAlaPheAlaThrGlnAlaAlaProGlnLysProValSerAlaAlaGlnThrAlaGlnHisSerAlaValTrpIleAspValArgSerGluGlnGluPheSerGluGlyHisLeuHisAsnAlaValAsnIleProValAspGlnIleValArgArgIleTyrGluAlaAlaProAspLysAspThrProValAsnLeuTyrCysArgSerGlyArgArgAlaGluAlaAlaLeuGlnGluLeuLysLysAlaGlyTyrrThrAsnValAlaAsnHisGlyGlyTyrGluAspLeuLeuLysLysGlyMetLys-119

Hydrophilic Regions - Hopp-Woods

1-MetAsnIleLysGlnLeuIleThrAlaAlaLeuIleAlaSerAlaAlaPheAlaThrGlnAlaAlaProGlnLysProValSerAlaAlaGlnThrAlaGlnHisSerAlaValTrpIleAspValArgSerGluGlnGluPheSerGluGlyHisLeuHisAsnAlaValAsnIleProValAspGlnIleValArgArgIleTyrGluAlaAlaProAspLysAspThrProValAsnLeuTyrCysArgSerGlyArgArgAlaGluAlaAlaLeuGlnGluLeuLysLysAlaGlyTyrrThrAsnValAlaAsnHisGlyGlyTyrGluAspLeuLeuLysLysGlyMetLys-119

g769

AMPHI Regions - AMPHI

1-LeuIleMetValIlePheTyrPheTyrPheCysGlyLysThrPheMetProAlaArgAsnArgTrpMetLeuLeuProLeuAlaSerAlaAlaTyrAlaGluGluThrProCysGluProAspLeuArgSerArgProGluPheArgLeuHisGluAlaGluValLysProIleAspArgGluLysValProGlyGlnValArgGluLysGlyLysValLeuGlnValAspGlyGluThrLeuLeuLysAsnProGluLeuLeuSerArgAlaMetTyrSerAlaValValSerAsnAsnIleAlaGlyIleArgValIleLeuProIleTyrLeuGlnGlnAlaArgGlnAspLysMetLeuAlaLeuTyrAla

-904-

GlnGlyIleLeuAlaGlnAlaGluGlyArgValLysGluAlaValSerHisTyrArgGluLeuIleAlaAlaGlnP
roAspAlaProAlaValArgMetArgLeuAlaAlaAlaLeuPheGluAspArgGlnAsnGluAlaAlaAspGl
nPheAspArgLeuLysThrGluAspLeuProProGlnLeuMetGluGlnValGluLeuTyrArgLysAlaLeuArg
GluArgAspAlaTrpLysValAsnGlyGlyPheSerValThrArgGluHisAsnIleAsnGlnAlaProLysLysGln
InGlnTyrGlyAsnTrpThrPheProLysGlnValAspGlyThrAlaValAsnTyrArgPheGlyAlaGluLysLy
sTrpSerLeuLysAsnGlyTrpTyrThrThrAlaGlyGlyAspValSerGlyArgValTyrProGlyAsnLysLys
PheAsnAspMetThrAlaGlyValSerGlyGlyIleGlyPheAlaAspArgArgLysAspValGlyLeuAlaValP
heHisGluArgArgThrTyrGlyAsnAspAlaTyrSerTyrAlaAsnGlyAlaArgLeuTyrPheAsnArgTrpGl
nThrProArgTrpGlnThrLeuSerSerAlaGluTrpGlyArgLeuLysAsnThrArgArgAlaArgSerAspAsn
ThrHisLeuGlnIleSerAsnSerLeuValPheTyrArgAsnAlaArgGlnTyrTrpThrGlyGlyLeuAspPheT
yrArgGluArgAsnProAlaAspArgGlyAspAsnPheAsnArgTyrGlyLeuArgPheAlaTrpGlyGlnGluTr
pGlyGlySerGlyLeuSerSerLeuPheArgLeuGlyValAlaLysArgHisTyrGluLysProGlyPhePheSer
SerPheLysGlyGluArgArgArgAspLysGluSerAspThrSerLeuSerLeuTrpHisArgAlaLeuHisPheL
ysGlyIleThrProArgLeuThrLeuSerHisArgGluThrTrpSerAsnAspValPheAsnGluTyrGluLysAs
nArgAlaPheValGluPheAsnLysThrPhe-491

Antigenic Index - Jameson-Wolf

1-LeuIleMetValIlePheTyrPheTyrPheCysGlyLysThrPheMetProAlaArgAsnArgTrpMetLeuLe
uProLeuLeuAlaSerAlaAlaTyrAlaGluGluThrProCysGluProAspLeuArgSerArgProGluPheArg
LeuHisGluAlaGluValLysProIleAspArgGluLysValProGlyGlnValArgGluLysGlyLysValLeuG
lnValAspGlyGluThrLeuLeuLysAsnProGluLeuLeuSerArgAlaMetTyrSerAlaValValSerAsnAs
nIleAlaGlyIleArgValIleLeuProIleTyrLeuGlnGlnAlaArgGlnAspLysMetLeuAlaLeuTyrAla
GlnGlyIleLeuAlaGlnAlaGluGlyArgValLysGluAlaValSerHisTyrArgGluLeuIleAlaAlaGlnP
roAspAlaProAlaValArgMetArgLeuAlaAlaAlaLeuPheGluAspArgGlnAsnGluAlaAlaAspGl
nPheAspArgLeuLysThrGluAspLeuProProGlnLeuMetGluGlnValGluLeuTyrArgLysAlaLeuArg
GluArgAspAlaTrpLysValAsnGlyGlyPheSerValThrArgGluHisAsnIleAsnGlnAlaProLysLysGln
InGlnTyrGlyAsnTrpThrPheProLysGlnValAspGlyThrAlaValAsnTyrArgPheGlyAlaGluLysLy
sTrpSerLeuLysAsnGlyTrpTyrThrThrAlaGlyGlyAspValSerGlyArgValTyrProGlyAsnLysLys
PheAsnAspMetThrAlaGlyValSerGlyGlyIleGlyPheAlaAspArgArgLysAspValGlyLeuAlaValP
heHisGluArgArgThrTyrGlyAsnAspAlaTyrSerTyrAlaAsnGlyAlaArgLeuTyrPheAsnArgTrpGl
nThrProArgTrpGlnThrLeuSerSerAlaGluTrpGlyArgLeuLysAsnThrArgArgAlaArgSerAspAsn
ThrHisLeuGlnIleSerAsnSerLeuValPheTyrArgAsnAlaArgGlnTyrTrpThrGlyGlyLeuAspPheT
yrArgGluArgAsnProAlaAspArgGlyAspAsnPheAsnArgTyrGlyLeuArgPheAlaTrpGlyGlnGluTr
pGlyGlySerGlyLeuSerSerLeuPheArgLeuGlyValAlaLysArgHisTyrGluLysProGlyPhePheSer
SerPheLysGlyGluArgArgArgAspLysGluSerAspThrSerLeuSerLeuTrpHisArgAlaLeuHisPheL
ysGlyIleThrProArgLeuThrLeuSerHisArgGluThrTrpSerAsnAspValPheAsnGluTyrGluLysAs
nArgAlaPheValGluPheAsnLysThrPhe-491

Hydrophilic Regions - Hopp-Woods

1-LeuIleMetValIlePheTyrPheTyrPheCysGlyLysThrPheMetProAlaArgAsnArgTrpMetLeuLe
uProLeuLeuAlaSerAlaAlaTyrAlaGluGluThrProCysGluProAspLeuArgSerArgProGluPheArg
LeuHisGluAlaGluValLysProIleAspArgGluLysValProGlyGlnValArgGluLysGlyLysValLeuG
lnValAspGlyGluThrLeuLeuLysAsnProGluLeuLeuSerArgAlaMetTyrSerAlaValValSerAsnAs
nIleAlaGlyIleArgValIleLeuProIleTyrLeuGlnGlnAlaArgGlnAspLysMetLeuAlaLeuTyrAla
GlnGlyIleLeuAlaGlnAlaGluGlyArgValLysGluAlaValSerHisTyrArgGluLeuIleAlaAlaGlnP
roAspAlaProAlaValArgMetArgLeuAlaAlaAlaLeuPheGluAspArgGlnAsnGluAlaAlaAspGl
nPheAspArgLeuLysThrGluAspLeuProProGlnLeuMetGluGlnValGluLeuTyrArgLysAlaLeuArg
GluArgAspAlaTrpLysValAsnGlyGlyPheSerValThrArgGluHisAsnIleAsnGlnAlaProLysLysGln
InGlnTyrGlyAsnTrpThrPheProLysGlnValAspGlyThrAlaValAsnTyrArgPheGlyAlaGluLysLy
sTrpSerLeuLysAsnGlyTrpTyrThrThrAlaGlyGlyAspValSerGlyArgValTyrProGlyAsnLysLys
PheAsnAspMetThrAlaGlyValSerGlyGlyIleGlyPheAlaAspArgArgLysAspValGlyLeuAlaValP
heHisGluArgArgThrTyrGlyAsnAspAlaTyrSerTyrAlaAsnGlyAlaArgLeuTyrPheAsnArgTrpGl
nThrProArgTrpGlnThrLeuSerSerAlaGluTrpGlyArgLeuLysAsnThrArgArgAlaArgSerAspAsn
ThrHisLeuGlnIleSerAsnSerLeuValPheTyrArgAsnAlaArgGlnTyrTrpThrGlyGlyLeuAspPheT
yrArgGluArgAsnProAlaAspArgGlyAspAsnPheAsnArgTyrGlyLeuArgPheAlaTrpGlyGlnGluTr

-905-

pGlyGlySerGlyLeuSerSerLeuPheArgLeuGlyValAlaLysArgHisTyrGluLysProGlyPhePheSer
 SerPheLysGlyGluArgArgArgAspLysGluSerAspThrSerLeuSerLeuTrpHisArgAlaLeuHisPheL
 ysGlyIleThrProArgLeuThrLeuSerHisArgGluThrTrpSerAsnAspValPheAsnGluTyrGluLysAs
 nArgAlaPheValGluPheAsnLysThrPhe-491

g770

AMPHI Regions - AMPHI

1-MetAsnArgLeuLeuLeuLeuSerAlaAlaValLeuProThrAlaCysGlySerGlyGluThrAspLysIleGly
 yArgAlaSerThrValPheAsnMetLeuGlyLysAsnAspArgIleGluValGluGlyPheAspAspProAspVal
 GlnGlyValAlaCysTyrIleSerTyrAlaLysLysGlyGlyLeuLysGluMetValAsnLeuGluGluAspAlaS
 erAspAlaSerValSerCysValGlnThrAlaSerSerIleSerPheAspGluThrAlaValArgLysProLysGly
 uValPheLysArgGlyThrGlyPheAlaPheLysSerArgGlnIleValArgTyrTyrAspProLysArgLysAla
 PheAlaTyrLeuValTyrSerAspLysIleValGlnGlySerProLysAsnSerLeuSerAlaValSerCysPheG
 lySerGlyIleProGlnThrAspGlyValGlnAlaAspThrSerGlyLysLeuLeuAlaGlyAlaCysIleIleSe
 rAsnProIleLysAsnProAspLysArg-186

Antigenic Index - Jameson-Wolf

1-MetAsnArgLeuLeuLeuLeuSerAlaAlaValLeuProThrAlaCysGlySerGlyGluThrAspLysIleGly
 yArgAlaSerThrValPheAsnMetLeuGlyLysAsnAspArgIleGluValGluGlyPheAspAspProAspVal
 GlnGlyValAlaCysTyrIleSerTyrAlaLysLysGlyGlyLeuLysGluMetValAsnLeuGluGluAspAlaS
 erAspAlaSerValSerCysValGlnThrAlaSerSerIleSerPheAspGluThrAlaValArgLysProLysGly
 uValPheLysArgGlyThrGlyPheAlaPheLysSerArgGlnIleValArgTyrTyrAspProLysArgLysAla
 PheAlaTyrLeuValTyrSerAspLysIleValGlnGlySerProLysAsnSerLeuSerAlaValSerCysPheG
 lySerGlyIleProGlnThrAspGlyValGlnAlaAspThrSerGlyLysLeuLeuAlaGlyAlaCysIleIleSe
 rAsnProIleLysAsnProAspLysArg-186

Hydrophilic Regions - Hopp-Woods

1-MetAsnArgLeuLeuLeuLeuSerAlaAlaValLeuProThrAlaCysGlySerGlyGluThrAspLysIleGly
 yArgAlaSerThrValPheAsnMetLeuGlyLysAsnAspArgIleGluValGluGlyPheAspAspProAspVal
 GlnGlyValAlaCysTyrIleSerTyrAlaLysLysGlyGlyLeuLysGluMetValAsnLeuGluGluAspAlaS
 erAspAlaSerValSerCysValGlnThrAlaSerSerIleSerPheAspGluThrAlaValArgLysProLysGly
 uValPheLysArgGlyThrGlyPheAlaPheLysSerArgGlnIleValArgTyrTyrAspProLysArgLysAla
 PheAlaTyrLeuValTyrSerAspLysIleValGlnGlySerProLysAsnSerLeuSerAlaValSerCysPheG
 lySerGlyIleProGlnThrAspGlyValGlnAlaAspThrSerGlyLysLeuLeuAlaGlyAlaCysIleIleSe
 rAsnProIleLysAsnProAspLysArg-186

g771

AMPHI Regions - AMPHI

49-SerIleAlaHisThr-53
 133-IleGlnAspLeuPheAspGlyAla-140
 312-GlyIleAlaAsnIleGlyAsn-318
 358-LeuGlnAspThrValAspArgLeuPro-366
 369-ArgPheIleSerArgLeuAspGlySer-377
 391-AsnGlyThrPheAsp-395
 427-TyrLeuAspGluPheArg-432
 437-LysIlePheProAspIleLeuGlyArgLeuSerGly-448
 523-LeuGlnAspLeuPheGlyPheHis-530
 581-GlyLeuSerGlyLys-585
 601-IleSerAspGlyIleSerArgHisIleAspThr-611

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Antigenic Index - Jameson-Wolf

37-PheThrProGluAsnIleArgSerArgLeuGlnGln-48
 52-HisThrHisArgLysIleSerPhe-59
 61-AlaAspIleArgArgArgLeuLeuProArgProThrVal-73
 79-ThrIleThrGluProAspGlyGlyArg-87
 90-ValSerValLysGluThrLysIle-97

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104-LeuTrpSerAspArgIleGlnVal-111
 122-AlaLeuThrArgAspArgAsnGlyAlaTrp-131
 135-AspLeuPheAspGlyAlaLysHisSerAlaSerValAsn-147
 150-IleValGluAsnSerThrValArg-157
 174-LeuGlnSerProAspSerSerGlyGlnGlnPheGluSerSerGly-188
 197-ValProTrpLysSerArgGlyLeuPhe-205
 208-AspGlyIleGlyThrProGluIleSerPro-217
 222-AlaSerThrSerLeuAspGlyHisGly-230
 235-ThrThrGlySerProSerValArgPheAsnAlaGlyGlyAlaAsp-249
 255-LeuArgAlaAspThrSerPhe-261
 275-LeuLysAsnAsnSerIleLysThrGlyThrVal-285
 291-AlaGlyGlyGluTyrAlaArgTrpAspGlySerPheLysLeuAspLysAlaAsnLeu-309
 317-GlyAsnAlaGluIleSerGlySerPheLysThrProArgLeuGln-331
 342-TrpSerArgAspAsnGlyLeuAspAlaProArg-352
 360-AspThrValAspArgLeuProGlnProArgPheIleSerArgLeuAspGlySerLeu-378
 389-GluLeuAsnGlyThrPheAspArgGlnProVal-399
 404-LysTyrThrArgGluGlyAlaProHisLeu-413
 429-AspGluPheArgGlnGlnAsnGlyLysIle-438
 443-LeuGlyArgLeuSerGlyAsnValGluAla-452
 464-LeuGlnLeuAspAspMetGlu-470
 473-LeuHisAlaAspLysAspHisIleAla-481
 483-SerArgPheLysSerGlyLeuTyrGlyGlyHisThrGluGlyGlyIle-498
 502-AsnThrArgProAlaThrTyrArgLeuGlnGlnAsnAlaSerAsn-516
 531-SerPheSerGlyAsnGlyAspAlaVal-539
 543-ThrAlaSerGlyGluAsnArgLysGlnLeuIleArgSerLeuGlnGlySerLeu-560
 564-IleSerAsnGlyAla-568
 573-AspMetAspSerIleLeuLysAsnGlyLeuSerGlyLysIleSerGly-588
 597-LeuAsnSerGluIleSerAspGlyIleSerArgHisIleAsp-610
 623-AsnGlyTyrThrAsnLeuAspThrGlnGluLeuSerGlu-635
 642-AlaValHisProLysAsnLysProIlePro-651
 656-GlyThrValAspLysProSerIleThrValAspTyrGlyArgLeuThrGlyGlyIleAsnSerArgLysGlu
 LysGlnLysIleLeuGlu-685
 695-LeuLysProLysGluPro-700

Hydrophilic Regions - Hopp-Woods

40-GluAsnIleArgSerArgLeuGln-47
 53-ThrHisArgLysIleSerPhe-59
 61-AlaAspIleArgArgArgLeuLeuPro-69
 81-ThrGluProAspGlyGlyArg-87
 90-ValSerValLysGluThrLysIle-97
 122-AlaLeuThrArgAspArgAsnGly-129
 135-AspLeuPheAspGlyAlaLysHisSerAlaSer-145
 175-GlnSerProAspSerSerGlyGlnGlnPheGlu-185
 255-LeuArgAlaAspThrSerPhe-261
 302-PheLysLeuAspLysAlaAsnLeu-309
 325-PheLysThrProArgLeu-330
 344-ArgAspAsnGlyLeuAspAlaProArg-352
 360-AspThrValAspArgLeuProGln-367
 370-PheIleSerArgLeuAspGly-376
 392-GlyThrPheAspArgGlnProVal-399
 404-LysTyrThrArgGluGlyAlaPro-411
 429-AspGluPheArgGlnGlnAsn-435
 465-GlnLeuAspAspMetGlu-470
 473-LeuHisAlaAspLysAspHisIleAla-481
 544-AlaSerGlyGluAsnArgLysGlnLeuIle-553

-907-

600-GluIleSerAspGlyIleSerArgHisIleAsp-610
 629-AspThrGlnGluLeuSerGlu-635
 643-ValHisProLysAsnLysProIlePro-651
 656-GlyThrValAspLysProSerIle-663
 674-IleAsnSerArgLysGluLysGlnLysIleLeuGlu-685
 696-LysProLysGluPro-700
 g772

AMPHI Regions - AMPHI

1-ValPheGlyThrValLeuArgThrAspAlaAspCysLeuGlnIleIleValValGlyLysPhePheGlnValValAlaTyrGlyPheAlaAlaLeuAlaGluGlyGluPheHisGlnPheGlyGluMetIleGluIleValArgLeuAlaAspThrValPheHisArgAsnHisAlaHisHisCysGlyIleAspPheArgArgGlyIleGluArgPheGlyArgHisValAsnGlnGlnLeuHisIleGluLysIleLeuGlnHisHisThrGlnAlaThrValValValAlaPheArgArgGlyAsnHisAlaLeuAspHisPhePheLeuGlnHisLysValHisIleGlyAspIleValArgHisLeuArgGlnPheGluGlnLysArgArgGlyAspValIleArgGlnValAlaAspAspPheLeuPheAlaAspAlaValGluIleLysLeuGlnHisValAlaPheValAsnHisGlnPheIleArgLysArgGlnArgPheGlnThrAlaTyrAspValAlaValAspPheAspAsnValGlnAlaValGlnLeuPheArgGlnArgPheGlyAsnCysArgGlnThrArgAlaAspPheAsnHisAspIleIleArgLeuArgAlaHisGlyValAspAsnIleAlaAspAsnProArgValLeuGlnLysIleLeuProGluThrLeuAlaGlyPheValPhePheHisArgValSerSerSerValGluThrProProPheArgAlaAlaGlySerAspSerValTrpAlaGlyArgAsnProPheGlnIleArgThrThrHisArgAlaValLeuTyrValSerSerCysValLeuGluHisLysCysValTyrSerIleArgLeuMetSerAlaLeu-297

Antigenic Index - Jameson-Wolf

1-ValPheGlyThrValLeuArgThrAspAlaAspCysLeuGlnIleIleValValGlyLysPhePheGlnValValAlaTyrGlyPheAlaAlaLeuAlaGluGlyGluPheHisGlnPheGlyGluMetIleGluIleValArgLeuAlaAspThrValPheHisArgAsnHisAlaHisHisCysGlyIleAspPheArgArgGlyIleGluArgPheGlyArgHisValAsnGlnGlnLeuHisIleGluLysIleLeuGlnHisHisThrGlnAlaThrValValValAlaPheArgArgGlyAsnHisAlaLeuAspHisPhePheLeuGlnHisLysValHisIleGlyAspIleValArgHisLeuArgGlnPheGluGlnLysArgArgGlyAspValIleArgGlnValAlaAspAspPheLeuPheAlaAspAlaValGluIleLysLeuGlnHisValAlaPheValAsnHisGlnPheIleArgLysArgGlnArgPheGlnThrAlaTyrAspValAlaValAspPheAspAsnValGlnAlaValGlnLeuPheArgGlnArgPheGlyAsnCysArgGlnThrArgAlaAspPheAsnHisAspIleIleArgLeuArgAlaHisGlyValAspAsnIleAlaAspAsnProArgValLeuGlnLysIleLeuProGluThrLeuAlaGlyPheValPhePheHisArgValSerSerSerValGluThrProProPheArgAlaAlaGlySerAspSerValTrpAlaGlyArgAsnProPheGlnIleArgThrThrHisArgAlaValLeuTyrValSerSerCysValLeuGluHisLysCysValTyrSerIleArgLeuMetSerAlaLeu-297

Hydrophilic Regions - Hopp-Woods

1-ValPheGlyThrValLeuArgThrAspAlaAspCysLeuGlnIleIleValValGlyLysPhePheGlnValValAlaTyrGlyPheAlaAlaLeuAlaGluGlyGluPheHisGlnPheGlyGluMetIleGluIleValArgLeuAlaAspThrValPheHisArgAsnHisAlaHisHisCysGlyIleAspPheArgArgGlyIleGluArgPheGlyArgHisValAsnGlnGlnLeuHisIleGluLysIleLeuGlnHisHisThrGlnAlaThrValValValAlaPheArgArgGlyAsnHisAlaLeuAspHisPhePheLeuGlnHisLysValHisIleGlyAspIleValArgHisLeuArgGlnPheGluGlnLysArgArgGlyAspValIleArgGlnValAlaAspAspPheLeuPheAlaAspAlaValGluIleLysLeuGlnHisValAlaPheValAsnHisGlnPheIleArgLysArgGlnArgPheGlnThrAlaTyrAspValAlaValAspPheAspAsnValGlnAlaValGlnLeuPheArgGlnArgPheGlyAsnCysArgGlnThrArgAlaAspPheAsnHisAspIleIleArgLeuArgAlaHisGlyValAspAsnIleAlaAspAsnProArgValLeuGlnLysIleLeuProGluThrLeuAlaGlyPheValPhePheHisArgValSerSerSerValGluThrProProPheArgAlaAlaGlySerAspSerValTrpAlaGlyArgAsnProPheGlnIleArgThrThrHisArgAlaValLeuTyrValSerSerCysValLeuGluHisLysCysValTyrSerIleArgLeuMetSerAlaLeu-297
 g774

AMPHI Regions - AMPHI

16-AlaSerCysAlaSerValLeu-22
 61-ValArgLeuSerAsnGluVal-67
 90-ValGlnLysLeuAsp-94
 115-ValGluThrAlaGlnAsnLeuTyrAsnGlnAlaLeuLysHisTyrGlnAsnGly-132
 170-CysGluSerValIleGluIle-176

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180-TyrAlaAsnArgPheLysAspSer-187
 210-AlaArgAlaThrTrpArgSerLeuIleGlnThrTyrProGly-223

Antigenic Index - Jameson-Wolf

23-ProValProGluGlySerArgThrGluMetProThrGlnGluAsnAlaSerAspGlyIlePro-43
 49-LeuGlnAspArgLeuAspTyrLeuGlu-57
 59-LysIleValArgLeuSerAsnGluValGluMetLeuAsnGlyLysValLysAlaLeuGluHisThrLysIleH
 isProSerGlyArgThrTyrValGlnLysLeuAspAspArgLysLeuLysGlu-100
 102-TyrLeuAsnThrGluGlyGlySerAla-110
 125-AlaLeuLysHisTyrGlnAsnGlyArgPhe-134
 142-LysGlyAlaAspGlyGlyAspGlyGlySerIleAlaGln-154
 162-GlnSerArgAlaArgMetGlyAsnCys-170
 176-IleGlyGlyArgTyrAlaAsnArgPheLysAspSerProThrAla-190
 198-GlyGluCysGlnTyr-202
 204-LeuGlnGlnLysAspIleAla-210
 221-TyrProGlySerProAlaAlaLysArgAlaAlaAlaAlaValArgLysArg-237

Hydrophilic Regions - Hopp-Woods

25-ProGluGlySerArgThrGluMetProThrGlnGluAsnAlaSerAsp-40
 49-LeuGlnAspArgLeuAspTyrLeuGlu-57
 59-LysIleValArgLeuSerAsnGluValGluMetLeuAsnGlyLysValLysAlaLeuGluHisThrLysIleH
 isProSerGly-86
 89-TyrValGlnLysLeuAspAspArgLysLeuLysGlu-100
 142-LysGlyAlaAspGlyGlyAspGlyGlySerIleAlaGln-154
 163-SerArgAlaArgMetGlyAsn-169
 180-TyrAlaAsnArgPheLysAspSerProThrAla-190
 198-GlyGluCysGlnTyr-202
 204-LeuGlnGlnLysAspIleAla-210
 225-ProAlaAlaLysArgAlaAlaAlaAlaValArgLysArg-237
 g900-2

AMPHI Regions - AMPHI

6-LeuGluAsnGlyThrHisSer-12
 19-GluArgThrTyrProGluProCysHisGluCysLysTerTerLeuArgArgIle-36
 43-AlaPheAlaGlnPheCys-48
 68-ValGlyLysHisLeuArgLysPheArgArgPheArgArgGly-82
 94-ValGlyLeuPheArgLeuAlaArgLeuPheHisValGlyAsnAspPheValAspArgPheLeuGlyPhePhe-
 117
 130-PheGlyHisPheAlaSer-135
 153-GlyGluGluPheLeuGluThrValValGluAlaAlaGlyAsnValAlaArgHisPheAspValLeuAspLeu-
 -176
 193-SerHisGlnAsnArgIle-198
 230-HisGlnThrLeuGlyGlyAspAlaGly-238
 242-ValGlnLeuHisHisPheGly-248
 265-GlyLysProSerGlyGlyAsnGlyLeuGlyGlyLeuValAsn-278
 311-AspGlyAlaAspValValAlaGlnMet-319

Antigenic Index - Jameson-Wolf

1-GlyTerProGluProLeuGluAsnGlyThrHisSerGluProThrGluMetAsxGluArgThrTyrProGluPr
 oCysHisGluCysLysTerTerLeuArgArgIleArgGlyGlnCys-40
 50-PheGlyValAspPheArgArgArgLysPhePhe-60
 70-LysHisLeuArgLysPheArgArgPheArgArgGlyGlyGlyPheIle-86
 88-PheLysGlnArgAla-92
 105-ValGlyAsnAspPheValAsp-111
 120-PheProLysArgAsnGlyIleAla-127
 135-SerValGlnThrAspGlnGluPhe-142

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150-PheGlyGlnGlyGluGluPheLeu-157
 163-AlaAlaGlyAsnVal-167
 177-ValAlaProAspGlyAspPheValGly-185
 189-GlnAsnValGlySerHisGlnAsnArgIleThrGluGlnThrHisPhe-204
 233-LeuGlyGlyAspAlaGlyGlnAsnPro-241
 261-ValGluSerAlaGlyLysProSerGlyGlyAsnGly-272
 289-ValValIleGlyGluGluGluGlyPhe-298
 302-ValLeuArgArgAlaAspGlyGlyAlaAspGlyAlaAsp-314
 319-MetArgGlyAlaGlyGlyGlyTyrAlaGly-328
 343-MetProSerGluArgGluLysMetArgArg-352
 361-ProAlaAspAsnArg-365

Hydrophilic Regions - Hopp-Woods

1-GlyTerProGluProLeuGluAsnGlyThrHisSerGluProThrGluMetAsxGluArgThrTyrPro-23
 25-ProCysHisGluCysLysTerTerLeuArgArgIleArgGly-38
 53-AspPheArgArgArgLysPhePhe-60
 70-LysHisLeuArgLysPheArgArgPheArgArgArgGlyGluGly-84
 121-ProLysArgAsnGly-125
 137-GlnThrAspGlnGluPhe-142
 152-GlnGlyGluGluPheLeu-157
 177-ValAlaProAspGlyAspPheValGly-185
 194-HisGlnAsnArgIleThrGlu-200
 233-LeuGlyGlyAspAlaGlyGln-239
 263-SerAlaGlyLysProSerGly-269
 289-ValValIleGlyGluGluGluGlyPhe-298
 302-ValLeuArgArgAlaAspGlyGlyAlaAspGlyAlaAsp-314
 343-MetProSerGluArgGluLysMetArgArg-352

g902**AMPHI Regions - AMPHI**

56-AlaValGlyHisPheAlaAspValProAla-65
 77-LeuThrIleLysArgValHisGly-84
 128-AspAlaValGlyGlyGly-133
 190-PheGlyAspPheGlyAsp-195
 216-AlaArgArgLeuAsp-220
 241-AspValAlaHisPheLeuGlyGlyAla-249
 266-ArgArgIleArgHisLeuPheGlyVal-274
 288-GlyLysIleThrAlaValGlnGlyPheSer-297
 318-ArgProThrGluAlaAlaGluGlyPhe-326
 334-ArgLysCysAspGlyValValAspLysIleThrAlaAspVal-347

Antigenic Index - Jameson-Wolf

1-MetProSerGluProGluArgArgHisGlyAsnThrAla-13
 26-PheSerGlyLysProPheLysIleThrGly-35
 38-ValValLeuArgArgArgIleValGln-46
 72-AlaHisThrAspGlyLeuThrIleLysArgValHisGly-84
 89-GlnAsnGlyGlySer-93
 97-GlnThrGlnGlyArgArgXxxAsn-104
 113-IleAlaGluLysProArgProAlaLeu-121
 134-LeuPheGluAspGlyGlyPheLeuArgArgSerAspValAlaValAspProGlyArgAspValGln-156
 175-ArgAlaArgAlaProValAsnGlyLysGlyGlyAsn-186
 192-AspPheGlyAspGlyGlyGln-198
 210-PheGluGlyAsnGlyTyrAlaArgArgLeuAspHisArgLeuGlnAsnGlyGlyAsnGlnArgLeu-231
 252-IleAspValAspAspLeuArgProGluSerAspValValThrArgArgIleArg-269
 277-GlyAsnLeuHisGlyAsnAspAla-284

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296-PheSerGlyIleProGluArgArgIleAla-305
 310-AlaHisArgProThrCysAlaLysArgProThrGluAlaAlaGlu-324
 330-AlaArgHisArgArgLysCysAspGlyValValAspLysIleThrAla-345
 347-ValHisAsnGlyProAlaPheGlnLysSerAla-357

Hydrophilic Regions - Hopp-Woods

1-MetProSerGluProGluArgArgHisGlyAsn-11
 29-LysProPheLysIleThrGly-35
 38-ValValLeuArgArgArgIleValGln-46
 77-LeuThrIleLysArgValHisGly-84
 99-GlnGlyArgArgXxxAsn-104
 113-IleAlaGluLysProArgProAlaLeu-121
 134-LeuPheGluAspGlyGlyGlyPheLeuArgArgSerAspValAlaValAspProGlyArgAspValGln-156
 175-ArgAlaArgAlaProValAsnGlyLysGlyGlyAsn-186
 214-GlyTyrAlaArgArgLeuAspHisArgLeuGlnAsn-225
 252-IleAspValAspAspLeuArgProGluSerAspValValThrArgArgIleArg-269
 299-IleProGluArgArgIleAla-305
 313-ProThrCysAlaLysArgProThrGluAlaAlaGlu-324
 330-AlaArgHisArgArgLysCysAspGlyValValAspLysIleThrAla-345

g904**AMPHI Regions - AMPHI**

1-MetMetGlnHisAsnArgPhePheAlaValGlyAlaGlyGlyAspAspGlyAspArgArgAlaAlaAspPhePheAsnProPheGlnIleCysPheGlyIleGlyArgGlnCysValValAlaPheHisAlaAspSerArgPheAlaProAlaGlyHisGlyPheValAsnArgPheAlaGlyPheHisArgIleArgThrAlaArgGlnAspValGlyPheAlaAlaAlaTrpGlnPheValAlaAlaAspAlaAspIleAspGlyPheAsnAlaValHisTyrIleGluPheGlyAsnAlaHisThrGlyAsnAlaValAspLeuAspGlyAlaPheGlnGlyGlyGlyIleLysProAlaAlaAlaAlaArgAlaAlaGlyTyrArgThrGluPheValSerAlaLeuArgGlnThrCysAlaTyrPheValGluGlnPheGlyArgGluArgAlaArgThrAspAlaArgGlyIleGlyPheAspAspAlaGlnAsnIleIleGlnHisLeuArgThrTyrAlaArgAlaCysArgSerArgAlaGlyGluThrValGlyArgGlyAsnGluGlyValSerAlaValValAspValGlnGlnArgThrLeuArgAlaPheLysGlnGlnPhePheAlaValPheValPhePheValGlnHisAlaGlyHisValGlyAsnHisArgArgAsnAlaArgArgAspPhePheAspAsnArgHisHisValPheArgPheAsnArgSerGlyValMetGlnValLeuGluLeuAspValValIleGlyLysAspGlyIleGlnPhePheThrGlnPhePheArgMetGlnGlnIleGlyGlyAlaAsnGlyAlaAlaCysHisPheValPheValGlyArgAlaAspAlaAlaAlaGlyArgAlaAspPheAlaPheAlaAlaArgCysPheAlaGlyLeuValGluArgAspValValArgGlnAspGlnArgAlaGlyArgArgAspPheGlnThrAlaPheAspValPheHisAlaCysArgValGlnLeuValAspPheAlaGlnGlnGlyPheGlyGlyAsnAsnAlaArgThrAspGluAlaIleGlnSerPheValGlnAspThrAlaArgAsnGlnAlaGlnAsnGlyPhePheAlaAlaAspAspGlnGlyMetAlaArgIleValAlaAlaLeuGluAlaHisAspAlaAlaGlyPhePheArgGlnProValAsnAspPheThrPheThrLeuValAlaProLeuCysAlaAspTyrTyrAsnIlePheSerHisSerHisIleThrTyrArgTyr-436

Antigenic Index - Jameson-Wolf

1-MetMetGlnHisAsnArgPhePheAlaValGlyAlaGlyGlyAspAspGlyAspArgArgAlaAlaAspPhePheAsnProPheGlnIleCysPheGlyIleGlyArgGlnCysValValAlaPheHisAlaAspSerArgPheAlaProAlaGlyHisGlyPheValAsnArgPheAlaGlyPheHisArgIleArgThrAlaArgGlnAspValGlyPheAlaAlaAlaTrpGlnPheValAlaAlaAspAlaAspIleAspGlyPheAsnAlaValHisTyrIleGluPheGlyAsnAlaHisThrGlyAsnAlaValAspLeuAspGlyAlaPheGlnGlyGlyGlyIleLysProAlaAlaAlaAlaArgAlaAlaGlyTyrArgThrGluPheValSerAlaLeuArgGlnThrCysAlaTyrPheValGluGlnPheGlyArgGluArgAlaArgThrAspAlaArgGlyIleGlyPheAspAspAlaGlnAsnIleIleGlnHisLeuArgThrTyrAlaArgAlaCysArgSerArgAlaGlyGluThrValGlyArgGlyAsnGluGlyValSerAlaValValAspValGlnGlnArgThrLeuArgAlaPheLysGlnGlnPhePheAlaValPheValPhePheValGlnHisAlaGlyHisValGlyAsnHisArgArgAsnAlaArgArgAspPhePheAspAsnArgHisHisValPheArgPheAsnArgSerGlyValMetGlnValLeuGluLeuAspValValIleGlyLysAspGlyIleGlnPhePheThrGlnPhePheArgMetGlnGlnIleGlyGlyAlaAsnGlyAlaAlaCysHisPheValPheValGlyArgAlaAspAlaAlaAlaGlyArgAlaAspPheAlaPheAlaAlaArgCysPheAlaGlyLeuValGluArgAspValValArgGlnAspGlnArgAlaGlyArgArgAs

-911-

pPheGlnThrAlaPheAspValPheHisAlaCysArgValGlnLeuValAspPheAlaGlnGlnGlyPheGlyGly
AsnAspAsnAlaArgThrAspGluAlaIleGlnSerPheValGlnAspThrAlaArgAsnGlnAlaGlnAsnGlyP
hePheAlaAlaAspAspGlnGlyMetAlaArgIleValAlaAlaLeuGluAlaHisAspAlaAlaGlyPhePheAr
gGlnProValAsnAspPheThrPheThrLeuValAlaProLeuCysAlaAspTyrTyrAsnIlePheSerHisSer
HisIleThrTyrArgTyr-436

Hydrophilic Regions - Hopp-Woods

1-MetMetGlnHisAsnArgPhePheAlaValGlyAlaGlyGlyAspAspGlyAspArgArgAlaAlaAspPhePh
eAsnProPheGlnIleCysPheGlyIleGlyArgGlnCysValValAlaPheHisAlaAspSerArgPheAlaPro
AlaGlyHisGlyPheValAsnArgPheAlaGlyPheHisArgIleArgThrAlaArgGlnAspValGlyPheAlaA
laAlaTrpGlnPheValAlaAspAlaAspIleAspGlyPheAsnAlaValHisTyrIleGluPheGlyAsnAlaHi
sThrGlyAsnAlaValAspLeuAspGlyAlaPheGlnGlyGlyGlyIleLysProAlaAlaAlaAlaArgAlaAla
GlyTyrArgThrGluPheValSerAlaLeuArgGlnThrCysAlaTyrPheValGluGlnPheGlyArgGluArgA
laArgThrAspAlaArgGlyIleGlyPheAspAspAlaGlnAsnIleIleGlnHisLeuArgThrTyrAlaArgAl
aCysArgSerArgAlaGlyGluThrValGlyArgGlyAsnGluGlyValSerAlaValValAspValGlnGlnArg
ThrLeuArgAlaPheLysGlnGlnPhePheAlaValPheValPhePheValGlnHisAlaGlyHisValGlyAsnH
isArgArgAsnAlaArgArgAspPhePheAspAsnArgHisHisValPheArgPheAsnArgSerGlyValMetGl
nValLeuGluLeuAspValValIleGlyLysAspGlyIleGlnPhePheThrGlnPhePheArgMetGlnGlnIle
GlyGlyAlaAsnGlyAlaAlaCysHisPheValPheValGlyArgAlaAspAlaAlaAlaGlyArgAlaAspPheA
laPheAlaAlaArgCysPheAlaGlyLeuValGluArgAspValValArgGlnAspGlnArgAlaGlyArgArgAs
pPheGlnThrAlaPheAspValPheHisAlaCysArgValGlnLeuValAspPheAlaGlnGlnGlyPheGlyGly
AsnAspAsnAlaArgThrAspGluAlaIleGlnSerPheValGlnAspThrAlaArgAsnGlnAlaGlnAsnGlyP
hePheAlaAlaAspAspGlnGlyMetAlaArgIleValAlaAlaLeuGluAlaHisAspAlaAlaGlyPhePheAr
gGlnProValAsnAspPheThrPheThrLeuValAlaProLeuCysAlaAspTyrTyrAsnIlePheSerHisSer
HisIleThrTyrArgTyr-436

g907-2**AMPHI Regions - AMPHI**

6-LeuAlaAsnGlyThrHisSer-12
19-GluArgThrTyrProGluProCysHisGluCysLysTerTerMetLysLysProThrAspThrLeuPro-41
74-AspAspValAlaSerValMetArgSer-82
98-LysGluGlyGluArgTrpLeuSerAlaMetSer-108
110-ArgLeuAlaArgPheValPro-116
161-GlyAlaArgGlyLeu-165
174-AsnTyrIleGlyLysProAlaHis-181
197-LeuArgHisTyrArgAsnLeuGluLysGlyAspIleValArgAlaLeuAlaArgPheAsnGly-217

Antigenic Index - Jameson-Wolf

1-GlyTerProGluProLeuGluAsnGlyThrHisSerGluProThrGluMetAsxGluArgThrTyrProGluPr
oCysHisGluCysLysTerTerMetLysLysProThrAspThrLeuPro-41
44-LeuGlnArgArgArgLeuLeu-50
65-GlyAlaGlnArgGluGluThrLeuAlaAspAspValAlaSer-78
83-SerValGlySerValAsnProProArgLeuValPheAspAsnProLysGluGlyGluArgTrp-103
113-ArgPheValProAspGluGlyGluArgArgArgLeu-124
129-GlnTyrGluSerSerArgAlaGlyLeu-137
147-GluValGluSerAlaPhe-152
174-AsnTyrIleGlyLysProAlaHisAsn-182
187-ArgThrAsnLeuArgTyrGly-193
200-TyrArgAsnLeuGluLysGlyAspIleVal-209
216-AsnGlySerLeuGlySerAsnLysTyrProAsnAla-227
232-TrpArgAsnArgTrpGlnTrp-238

Hydrophilic Regions - Hopp-Woods

1-GlyTerProGluProLeuGluAsnGlyThrHisSerGluProThrGluMetAsxGluArgThrTyrPro-23
25-ProCysHisGluCysLysTerTerMetLysLysProThrAsp-38
44-LeuGlnArgArgArgLeuLeu-50

-912-

65-GlyAlaGlnArgGluGluThrLeuAlaAspAspValAlaSer-78
 92-LeuValPheAspAsnProLysGluGlyGluArgTrp-103
 115-ValProAspGluGlyGluArgArgArgLeu-124
 131-GluSerSerArgAlaGlyLeu-137
 147-GluValGluSerAlaPhe-152
 201-ArgAsnLeuGluLysGlyAspIleVal-209

g908

AMPHI Regions - AMPHI

24-ThrAlaAlaGluLeu-28
 125-ThrAspCysTyrArgSerTyrAspValLeuAspValSerGluPheSerHisPheSer-143

Antigenic Index - Jameson-Wolf

1-LysSerArgLeuSerArgTyrLysGlnAsnLysLeu-12
 30-GlyIleAsnLysAsnThrAla-36
 49-GlnAsnGlyProHis-53
 57-PheAspGlyGluValGluAlaAspGluSerTyrPheGlyGlyGlnArgLysGlyLysArgGlyArgGlyAlaAlaGlyLys-83
 89-LeuLeuLysArgAsnGlyLysVal-96
 113-IleArgGluGlnValLysProAspSerIleVal-123
 125-ThrAspCysTyrArgSerTyrAsp-132
 159-ArgThrThrLysProTyr-164

Hydrophilic Regions - Hopp-Woods

1-LysSerArgLeuSerArgTyrLysGlnAsnLys-11
 57-PheAspGlyGluValGluAlaAspGluSerTyr-67
 70-GlyGlnArgLysGlyLysArgGlyArgGlyAlaAlaGly-82
 90-LeuLysArgAsnGlyLys-95
 113-IleArgGluGlnValLysProAspSer-121

g909

AMPHI Regions - AMPHI

24-GlnAspGlySerGly-28

Antigenic Index - Jameson-Wolf

22-ThrTyrGlnAspGlySerGlyLysThrAlaValArgAlaLysCysSerThrGlyThrPro-41
 45-GlnAspGlyArgGlySerLysLysValAspCysAspGluTyrGlyGlyGluArgArgAlaValLeuArgAsnGlnLysArgGlyLysProAlaThrArgArgAlaAlaThr-81
 83-GlyLysProSerPheArgAlaArgAspGlyGlyGlyArgValAsnArgAlaGluThrGlyGluGlyLysArgSerAlaArg-109

Hydrophilic Regions - Hopp-Woods

23-TyrGlnAspGlySerGlyLysThrAlaValArgAlaLysCysSerThr-38
 46-AspGlyArgGlySerLysLysValAspCysAspGluTyrGlyGlyGluArgArgAlaValLeuArgAsnGlnLysArgGlyLysProAlaThrArgArgAlaAlaThr-81
 85-ProSerPheArgAlaArgAspGlyGlyGlyArgValAsnArgAlaGluThrGlyGluGlyLysArgSerAlaArg-109

g910

AMPHI Regions - AMPHI

22-SerAlaGluArgGlnIle-27
 39-LysAlaValLysMetLeuGlu-45
 69-AlaTyrLysAspGlyArg-74

Antigenic Index - Jameson-Wolf

19-AlaGlyAspSerAlaGluArgGlnIleTyrGlyAspProHisPheGluGlnAsnArgThrLysAlaValLysMetLeuGluGlnArgGlyTyrGln-50
 53-AspValAspAlaAspAspTyrTrpGlyLysProValLeuGlu-66
 68-GluAlaTyrLysAspGlyArgGluTyrAsp-77

-913-

83-ProAspLeuLysIleIleLysGluGlnLeuAspArg-94

Hydrophilic Regions - Hopp-Woods

21-AspSerAlaGluArgGlnIleTyr-28

31-ProHisPheGluGlnAsnArgThrLysAlaValLysMetLeuGluGlnArgGly-48

53-AspValAspAlaAspAspTyrTrp-60

68-GluAlaTyrLysAspGlyArgGluTyrAsp-77

86-LysIleIleLysGluGlnLeuAspArg-94

g911**AMPHI Regions - AMPHI**

6-LeuGluPheTrpValGlyLeuPhe-13

43-ValTyrAlaAspPheGlyAspIleGly-51

97-ValSerAlaGlnIle-101

118-GlyAspThrGluAsnLeuAla-124

140-AsnLeuIleGlyLysPheMetThrSerPhe-149

Antigenic Index - Jameson-Wolf

1-MetLysLysAsnIle-5

35-GlyGlySerAspLysThrTyr-41

48-GlyAspIleGlyGlyLeuLysValAsnAlaProValLys-60

74-LeuAspProLysSerTyrGlnAlaArgValArgLeuAspLeuAspGlyLysTyrGlnPheSerSerAspVal-97

103-ThrSerGlyLeuLeuGly-108

115-GlnGlnGlyGlyAspThrGluAsn-122

149-PheAlaGluLysAsnAlaGluGlyGlyAsnAlaGluLysAlaAlaGlu-164

Hydrophilic Regions - Hopp-Woods

1-MetLysLysAsnIle-5

36-GlySerAspLysThr-40

74-LeuAspProLysSerTyrGlnAlaArgValArgLeuAspLeuAspGly-89

116-GlnGlyGlyAspThrGluAsn-122

149-PheAlaGluLysAsnAlaGluGlyGlyAsnAlaGluLysAlaAlaGlu-164

g912**AMPHI Regions - AMPHI**

23-SerProAlaAspAlaValGlyGlnIle-31

63-AspPheGlnArgMetThrAlaLeuAlaValGlyAsnProTrpArgThrAlaSerAspAlaGlnLys-84

89-LysGluPheGlnThrLeu-94

169-TyrArgAsnGlnPheGlyGluIleIleLysAlaLysGlyIleAspGlyLeuIleAla-187

Antigenic Index - Jameson-Wolf

1-ValLysLysSerSer-5

23-SerProAlaAspAla-27

31-IleArgGlnAsnAlaThrGln-37

42-LeuLysSerGlyAspAlaAlaSerAlaArgProLysAlaGluAla-56

74-AsnProTrpArgThrAlaSerAspAlaGlnLysGlnAlaLeuAlaLysGluPhe-91

104-LeuLysPheLysAsn-108

112-AsnValLysAspAsnProIleValAsnLysGlyGlyLysGluIleValVal-128

134-IleProGlyGlnLysProValAsnMet-142

146-ThrTyrGlnSerGlyGlyLysTyrArgThr-155

169-TyrArgAsnGlnPhe-173

177-IleLysAlaLysGlyIleAsp-183

189-LeuLysAlaLysAsnGlyGlyLys-196

Hydrophilic Regions - Hopp-Woods

1-ValLysLysSerSer-5

31-IleArgGlnAsnAla-35
 43-LysSerGlyAspAlaAlaSerAlaArgProLysAlaGluAla-56
 78-ThrAlaSerAspAlaGlnLysGlnAlaLeuAlaLysGluPhe-91
 104-LeuLysPheLysAsn-108
 112-AsnValLysAspAsnProIleVal-119
 121-LysGlyGlyLysGluIleValVal-128
 177-IleLysAlaLysGlyIleAsp-183
 189-LeuLysAlaLysAsnGlyGlyLys-196
g913

AMPHI Regions - AMPHI

22-GluThrArgProAlaAspProTyrGluGlyTyrAsnArgAlaValSerLysPheAsnAspGlnAla-43
 53-ArgGlyTyrArgLysValThrProLys-61
 66-GlyValSerAsnPhePheAsnAsnLeuArgAspValValSer-79
 107-LeuGlyGlyLeuIleAspIleAlaGly-115
 151-ValArgAspAlaLeuGlyThrGlyIleThrSerValTyr-163
 193-AspLeuThrAspSerLeuAspGluAlaAla-202
 240-LeuValGluSerAla-244
 259-SerGluThrGlnAla-263

Antigenic Index - Jameson-Wolf

1-MetLysLysThrAla-5
 21-AlaGluThrArgProAlaAspProTyrGluGlyTyrAsnArgAlaValSerLysPheAsnAspGlnAlaAspA
 rgTyr-46
 51-AlaAlaArgGlyTyrArgLysValThrProLysProValArgAla-65
 87-LeuAspIleLysArgAlaSerGluAspLeuVal-97
 117-GlyGlyValProAspAsnLysAsnThrLeuGlyAsp-128
 132-SerTrpGlyTrpLysAsnSerAsn-139
 149-SerThrValArgAspAlaLeu-155
 163-TyrProProLysAsn-167
 173-ProAlaGlyArgTrpGly-178
 186-SerThrArgGluGlyLeuLeuAspLeuThrAspSerLeuAspGluAlaAlaIleAspLysTyrSerTyrThr
 ArgAspLeuTyrMet-214
 216-ValArgAlaArgGlnThrGlyAlaThrProAlaGluGlyThrGluAspAsnIleAspIleAspIleAspGlu
 LeuValGluSerAlaGluThrGlyAlaAla-249
 252-AlaValHisGluAspSerValSerGluThrGlnAlaGluAlaAlaGlyGluAlaGluThrGlnProGlyThr
 GlnPro-277

Hydrophilic Regions - Hopp-Woods

1-MetLysLysThrAla-5
 21-AlaGluThrArgProAlaAspProTyrGluGlyTyrAsn-33
 35-AlaValSerLysPheAsnAspGlnAlaAsp-44
 53-ArgGlyTyrArgLysValThrProLysProValArg-64
 87-LeuAspIleLysArgAlaSerGluAspLeuVal-97
 118-GlyValProAspAsnLysAsnThrLeu-126
 150-ThrValArgAspAlaLeu-155
 186-SerThrArgGluGlyLeuLeuAspLeuThrAspSerLeuAspGluAlaAlaIleAsp-204
 216-ValArgAlaArgGlnThrGly-222
 224-ThrProAlaGluGlyThrGluAspAsnIleAspIleAspIleAspGluLeuValGluSerAlaGluThrGly
 AlaAla-249
 252-AlaValHisGluAspSerValSerGluThrGlnAlaGluAlaAlaGlyGluAlaGluThrGlnPro-273
g914-2

AMPHI Regions - AMPHI

6-LeuGlyIleLeuThrAlaCysAlaAlaMet-15
 17-AlaPheAlaAspArgIleSerAspLeu-25
 65-PheGlnLysThrPheGlu-70

81-GlnLysValArgGlnAlaCys-87

Antigenic Index - Jameson-Wolf

18-PheAlaAspArgIleSerAspLeuGluAlaArgLeuAlaGlnLeuGluHisArgValAlaValLeuGluSerGlyGlyAsnThrValLys-47
 50-LeuPheGlySerAsnSer-55
 64-ProPheGlnLysThrPheGluAlaSerAspArgAsnGluGlyValAlaArgGlnLysValArgGlnAlaCysAsnArgGluThrSerAla-93
 96-CysGlyAspGluAlaIleArgCysArgLysPheAsp-107

Hydrophilic Regions - Hopp-Woods

18-PheAlaAspArgIleSerAspLeuGluAlaArgLeuAlaGlnLeuGluHisArgValAlaVal-38
 67-LysThrPheGluAlaSerAspArgAsnGluGlyValAlaArgGlnLysValArgGlnAlaCysAsnArgGluThrSer-92
 96-CysGlyAspGluAlaIleArgCysArgLysPheAsp-107

g915

AMPHI Regions - AMPHI

8-IleValAlaValPheAlaLeuSerAla-16
 31-IleSerAspArgSerVal-36
 69-ValLysGlnMetPheGlyTyrThrLysLeuProGluGluProLysGlyIleArgValIleTyrValThrAspMetGlyAsnValThrAspTrpThr-100
 139-GlnAlaGluLysPhe-143

Antigenic Index - Jameson-Wolf

16-AlaCysArgGlnAlaGluGluAlaProProProLeuProArgGlnIleSerAspArgSerValGlyHisTyrCysSerMetAsnLeuThrGluHisAsnGlyProLysAla-52
 56-LeuAsnGlyLysProAspGlnProVal-64
 75-TyrThrLysLeuProGluGluProLysGlyIle-85
 92-AspMetGlyAsnValThrAspTrpThrAsnProAsnAlaAspThrGluTrpIleAspAlaLysLys-113
 125-GlyMetGlyAlaGluAspAlaLeuProPheGlyAsnLysGluGlnAlaGluLysPheAlaLysAspLysGlyGlyLysValValGly-153
 155-AspAspMetProAsp-159

Hydrophilic Regions - Hopp-Woods

18-ArgGlnAlaGluGluAlaProProProLeu-27
 30-GlnIleSerAspArgSerVal-36
 46-GluHisAsnGlyProLys-51
 58-GlyLysProAspGln-62
 77-LysLeuProGluGluProLysGlyIle-85
 103-AsnAlaAspThrGluTrpIleAspAlaLysLys-113
 127-GlyAlaGluAspAlaLeu-132
 135-GlyAsnLysGluGlnAlaGluLysPheAlaLysAspLysGlyGlyLys-150
 155-AspAspMetProAsp-159

g917

AMPHI Regions - AMPHI

6-ProLeuAlaValLeuThrAlaLeuLeuLeu-15
 35-GlnAsnValLeuLysIleTyrAsnTrpSerGluTyrValAspProGluThrValAlaAsp-54
 99-IleLysAlaGlyAlaTyrGlnLysIleAspLysSer-110
 124-ArgLeuMetAspGlyValAsp-130
 152-ArgValLysLysAlaLeu-157
 188-AspSerAlaAlaGlu-192
 206-AsnSerSerAsnThrGluAspIleArgGluAlaThr-217
 292-AlaLysAsnValAlaAsnAlaHisLysTyrIleAsnAspPheLeuAsp-307
 325-LysProAlaArgAspLeuMetGluAsp-333

Antigenic Index - Jameson-Wolf

18-CysGlyGlySerAspLysProProAlaGluLysProAlaProAlaGluAsnGlnAsnVal-37
 44-SerGluTyrValAspProGluThrValAlaAspPheGluLysLysAsnGlyIleLysValThr-64
 68-TyrAspSerAspGluThrLeuGluSerLysValLeuThrGlyLysSerGlyTyrAsp-86
 102-GlyAlaTyrGlnLysIleAspLysSerMetIleProAsnTyrLysHisLeuAsnProGluMetMetArgLeu
 MetAspGlyValAspProAspHisGluTyr-135
 149-AsnThrGluArgValLysLysAlaLeuGlyThrAspLysLeuProAspAsnGln-166
 171-PheAsnProGluTyr-175
 179-LeuLysGlnCysGly-183
 201-LeuGlyLysAsnProAsnSerSerAsnThrGluAspIleArgGluAlaThrAlaLeuLeuLysLysAsnArg
 ProAsnIleLysArgPheThrSerSerGlyPheIle-236
 238-AspLeuAlaArgGlyAspThr-244
 255-AsnIleAlaLysArgArgAlaGluGluAlaGlyGlyLysGluLysIleArgValMetMetProLysGluGly
 ValGly-280
 287-ValIleProLysAspAlaLysAsnValAlaAsn-297
 305-PheLeuAspProGluValSerAlaLysAsnGlyAsn-316
 320-TyrAlaProSerSerLysProAlaArgAspLeuMetGluAspGluPheLysAsnAspAsnThrIlePhePro
 SerGlyGluAspLeuLysAsn-350
 368-GlnTrpGlnAspValLysAlaGlyLys-376

Hydrophilic Regions - Hopp-Woods

19-GlyGlySerAspLysProProAlaGluLysProAlaProAlaGluAsn-34
 47-ValAspProGluThrValAlaAspPheGluLysLysAsnGlyIle-61
 68-TyrAspSerAspGluThrLeuGluSerLysValLeuThr-80
 105-GlnLysIleAspLysSerMet-111
 121-GluMetMetArgLeuMetAspGlyValAspProAspHisGluTyr-135
 149-AsnThrGluArgValLysLysAlaLeuGlyThrAspLysLeuProAspAsnGln-166
 204-AsnProAsnSerSerAsnThrGluAspIleArgGluAlaThrAlaLeuLeuLysLysAsnArgProAsnIle
 LysArgPheThr-231
 238-AspLeuAlaArgGlyAspThr-244
 255-AsnIleAlaLysArgArgAlaGluGluAlaGlyGlyLysGluLysIleArgValMetMetProLysGluGly
 -278
 290-LysAspAlaLysAsnValAlaAsn-297
 305-PheLeuAspProGluValSerAlaLysAsn-314
 322-ProSerSerLysProAlaArgAspLeuMetGluAspGluPheLysAsnAspAsn-339
 344-SerGlyGluAspLeuLysAsn-350
 370-GlnAspValLysAlaGlyLys-376

g919**AMPHI Regions - AMPHI**

8-SerAlaLeuTyrGlyIleAlaAlaAlaIleLeu-18
 24-ArgSerIleGlnThrPheProGln-31
 37-IleAsnGlyProAspArgProAlaGlyIleProAspProAlaGly-51
 76-AspPheAlaLysSerLeuGln-82
 98-GlnAspValCysAlaGlnAlaPheGlnThrProVal-109
 118-PheGluArgTyrPheThr-123
 133-LeuAlaGlyThrValThrGlyTyrTyrGlu-142
 161-GlyIleProAspAspPheIleSerValPro-170
 176-ArgGlyGlyLysAsnLeuValArgIleArgGln-186
 191-SerGlyThrIleAspAsnAlaGlyGlyThr-200
 308-GlnGlyIleLysAlaTyrMetArgGlnAsnProGlnArgLeuAlaGluValLeu-325
 348-AlaLeuGlyThrProLeuMetGlyGluTyrAlaGlyAlaIle-361
 382-ArgLysAlaLeuAsnArg-387

Antigenic Index - Jameson-Wolf

1-MetLysLysHisLeuLeu-6

-917-

21-CysGlnSerArgSerIleGln-27
 30-ProGlnProAspThr-34
 36-ValIleAsnGlyProAspArgProAlaGlyIleProAspProAlaGly-51
 76-AspPheAlaLysSerLeuGln-82
 87-GlyCysAlaAsnLeuLysAsnArgGlnGlyTrpGln-98
 113-GlnAlaLysArgPhePhe-118
 121-TyrPheThrProTrp-125
 143-ProValLeuLysGlyAspGlyArgArgThrGluArgAlaArg-156
 161-GlyIleProAspAspPheIle-167
 173-AlaGlyLeuArgGlyGlyLysAsnLeuValArgIleArgGlnThrGlyLysAsnSerGlyThrIleAspAsn
 AlaGlyGlyThrHis-201
 215-ThrAlaIleLysGlyArgPheGluGlySerArgPheLeuProTyrHisThrArgAsnGlnIleAsnGlyGly
 AlaLeuAspGlyLysAlaPro-245
 250-AlaGluAspProValGlu-255
 262-GlnGlySerGlyArgLeuLysThrProSerGlyLysTyrIleArg-276
 278-GlyTyrAlaAspLysAsnGluHisPro-286
 293-TyrMetAlaAspLysGlyTyrLeuLysLeuGlyGln-304
 312-AlaTyrMetArgGlnAsnProGlnArgLeuAlaGlu-323
 326-GlyGlnAsnProSer-330
 337-LeuAlaGlySerGlyAsnGluGlyProVal-346
 359-GlyAlaIleAspArgHisTyr-365
 379-ProValThrArgLysAlaLeuAsn-386
 393-AspThrGlySerAlaIleLysGlyAlaValArg-403
 409-GlyTyrGlyAspGluAlaGlyGluLeuAlaGlyLysGlnLysThrThr-424
 431-LeuProAsnGlyMetLysProGluTyrArgPro-441

Hydrophilic Regions - Hopp-Woods

1-MetLysLysHisLeuLeu-6
 38-AsnGlyProAspArgProAlaGlyIleProAspProAlaGly-51
 90-AsnLeuLysAsnArgGlnGlyTrp-97
 144-ValLeuLysGlyAspGlyArgArgThrGluArgAlaArg-156
 175-LeuArgGlyGlyLysAsnLeuValArgIleArgGlnThrGlyLysAsnSerGlyThrIleAspAsnAlaGly
 -198
 215-ThrAlaIleLysGlyArgPheGluGly-223
 239-AlaLeuAspGlyLysAla-244
 250-AlaGluAspProVal-254
 265-GlyArgLeuLysThrProSer-271
 279-TyrAlaAspLysAsnGluHis-285
 317-AsnProGlnArgLeuAlaGlu-323
 337-LeuAlaGlySerGlyAsnGluGlyPro-345
 380-ValThrArgLysAlaLeuAsn-386
 393-AspThrGlySerAlaIle-398
 412-AspGluAlaGlyGluLeuAlaGlyLysGlnLysThr-423
 434-GlyMetLysProGluTyrArgPro-441
g920-2

AMPHI Regions - AMPHI

43-GlyGluPheProGluLeuGluProIleAla-52
 117-GlyIleLysGluMetProAsp-123
 135-LysAsnIleValAsnVal-140
 163-LeuAspAsnProAlaAsn-168
 190-ThrValThrAlaThrPheAspGlyPheAspThrSerAspArgSerLys-205
 212-GlnAlaPheSerAspSerThr-218

Antigenic Index - Jameson-Wolf

40-LeuGlyTyrGlyGluPheProGlu-47

-918-

49-GluProIleAlaLysAspArgLeu-56
 66-ValThrGluLysGlyLysGluAsnMetIle-75
 77-ArgGlyThrTyrAsnTyrGlnTyrArgSerAsnArgProValLysAspGlySerTyr-95
 104-ThrPheTrpSerLysAsnLysAlaGlyTrp-113
 116-AlaGlyIleLysGluMetProAspAlaSerTyrCysGluGlnThrArgMetPheGlyLysAsnIleValAsn
 ValGlyHisGluSerAlaAspThr-147
 152-LysProValGlyGlnAsnLeuGlu-159
 162-ProLeuAspAsnProAla-167
 173-GluArgPheLysVal-177
 181-PheArgGlyGluProLeuProAsnAla-189
 194-ThrPheAspGlyPheAspThrSerAspArgSerLysThrHisLysThrGluAla-211
 213-AlaPheSerAspSerThrAspAspLysGlyGluValAsp-225
 237-AsnValGluHisLysThrAspPheProAspGlnSerValCysGlnLysGlnAlaAsnTyrSer-257

Hydrophilic Regions - Hopp-Woods

49-GluProIleAlaLysAspArgLeu-56
 66-ValThrGluLysGlyLysGluAsnMetIle-75
 85-ArgSerAsnArgProValLysAspGlySer-94
 107-SerLysAsnLysAlaGlyTrp-113
 116-AlaGlyIleLysGluMetProAsp-123
 128-GluGlnThrArgMetPheGly-134
 142-HisGluSerAlaAsp-146
 173-GluArgPheLysVal-177
 196-AspGlyPheAspThrSerAspArgSerLysThrHisLysThrGluAla-211
 213-AlaPheSerAspSerThrAspAspLysGlyGluValAsp-225
 237-AsnValGluHisLysThrAspPheProAsp-246
 248-SerValCysGlnLys-252

g921**AMPHI Regions - AMPHI**

12-AlaValLeuSerGlyCysGlnSerIleTyrValProThrLeuThrGluIleProValAsn-31
 33-IleAsnThrValLysThr-38
 51-HisTrpAlaAspValAlaLysIleSerAspGlu-61
 72-GlyLysMetThrLysValGlnAlaAlaGlnTyrLeuAsnAsnPheArgLys-88
 98-AspSerMetTyrGluIleTyrLeuArg-106
 126-GluAsnAlaLeuArgGlyTrpGlnGlnArgTrp-136

Antigenic Index - Jameson-Wolf

36-ValLysThrGluAlaProAlaLysGlyPheArg-46
 56-AlaLysIleSerAspGluAlaThrArg-64
 72-GlyLysMetThrLys-76
 84-AsnAsnPheArgLysArgLeuValGlyArgAsnAlaValAspAspSerMet-100
 107-SerAlaValAspSerGlnArgGlyGluIleAsnThrGluGlnSerLysLeuTyr-124
 128-AlaLeuArgGlyTrpGlnGlnArgTrpLysAsnMetAspAlaLysProAspAsnProAla-147

Hydrophilic Regions - Hopp-Woods

36-ValLysThrGluAlaProAlaLysGlyPheArg-46
 56-AlaLysIleSerAspGluAlaThrArg-64
 86-PheArgLysArgLeuValGly-92
 94-AsnAlaValAspAspSerMet-100
 107-SerAlaValAspSerGlnArgGlyGluIleAsnThrGluGlnSerLysLeuTyr-124
 136-TrpLysAsnMetAspAlaLysProAspAsn-145

g922**AMPHI Regions - AMPHI**

16-LeuSerAlaCysThrAla-21
 28-ArgAlaAsnGluAlaGlnAlaPro-35

-919-

66-ValArgArgPheValAspAsp-72
 82-AlaGluTrpGlnAspPhePheAspLys-90
 98-VallLysIleMetHis-102
 138-AspAspValAlaGln-142
 166-GlySerPheArgValAlaAspAlaLeu-174
 190-LysGluLeuValGluLeuLeuLysLeuAla-199
 216-AlaMetGlyMetPro-220
 239-HisArgAspIleTrpGlyAsnValGlyAspValAlaAlaSerValAlaAsnTyrMetLysGlnHis-260
 292-ArgThrValAlaAspLeuLysAlaTyr-300
 329-TyrLeuGlyLeuAsnAsnPheTyrThr-337

Antigenic Index - Jameson-Wolf

1-MetGluLysArgLysIleLeu-7
 22-MetGluAlaArgThrProArgAlaAsnGluAlaGlnAlaProArgAlaAspGluMetLysLysGluSerArgProAlaPhe-48
 55-ValSerAspSerGlyPhe-60
 64-AlaAsnValArgArgPheValAspAspGluValGlyLysGlyAspPheSerGln-81
 101-MetHisArgProSerThrSerArgPro-109
 114-ArgThrGlyAsnSerGlyArgAlaLysPheHisGly-125
 127-ArgArgPheTyrAlaGluAsnArgAlaValIleAspAspValAlaGlnLysTyrGlyVal-146
 157-IleGluThrAsnTyrGlyLysAsnThrGlySer-167
 180-AspTyrProArgArgAlaGlyPhePhe-188
 197-LysLeuAlaLysGluGluGlyGlyAsp-205
 223-MetProSerSerTyrArgLysTrpAlaValAspTyrAspGlyAspGlyHisArgAspIle-242
 260-HisGlyTrpArgThrGlyLysMet-268
 275-AlaProGlyAlaAsp-279
 284-IleGlyGluLysThrAlaLeu-290
 304-ProGlyGluThrLeuAlaAspAspGluLysAlaVal-315
 320-GluThrAlaProGly-324
 351-ValArgAspIleAlaAsnSerLeuGlyGlyProGlyLeu-363

Hydrophilic Regions - Hopp-Woods

1-MetGluLysArgLysIleLeu-7
 22-MetGluAlaArgThrProArgAlaAsnGluAlaGlnAlaProArgAlaAspGluMetLysLysGluSerArgProAlaPhe-48
 64-AlaAsnValArgArgPheValAspAspGluValGlyLysGlyAspPheSerGln-81
 116-GlyAsnSerGlyArgAlaLysPheHisGly-125
 127-ArgArgPheTyrAlaGluAsnArgAlaValIleAspAspValAlaGln-142
 160-AsnTyrGlyLysAsnThrGly-166
 181-TyrProArgArgAlaGlyPhePhe-188
 197-LysLeuAlaLysGluGluGlyGlyAsp-205
 234-TyrAspGlyAspGlyHisArgAspIle-242
 284-IleGlyGluLysThrAlaLeu-290
 307-ThrLeuAlaAspAspGluLysAlaVal-315
 351-ValArgAspIleAla-355
g923-2

AMPHI Regions - AMPHI

9-ProMetAlaCysAlaAlaPheLeu-16
 26-LeuGlyAlaCysTyrAlaIleLeuSerLeuTyrAla-37
 63-ProAlaLeuPheGlyGlyTrpThrGly-71

Antigenic Index - Jameson-Wolf

43-IleAspLysArgArgAlaValArgGlyLysArgArgIleProGluHisArgLeu-60
 77-ArgMetPheArgHisLysThrAlaLysLysArgPhe-88

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Hydrophilic Regions - Hopp-Woods

43-IleAspLysArgArgAlaValArgGlyLysArgArgIleProGluHisArgLeu-60
 77-ArgMetPheArgHisLysThrAlaLysLysArgPhe-88

g925-1**AMPHI Regions - AMPHI**

115-LysCysGlyGlnThrAlaGln-121
 154-PheAspGluLeuGlu-158

Antigenic Index - Jameson-Wolf

16-GlyCysGlyLysAspAlaGlyGlyTyrGluGlyTyrTrpArgGluLysSerAspLysLysGluGlyValIleA
 laValLysLysLysGlyAsnTyrPhe-48
 56-ThrGlyLysGluGluSerLeuLeuLeuSerGluLysAspGlyAla-70
 74-AsnThrGlyIleGly-78
 80-IleProIleLysLeuSerAspAspGlyLysGluLeuTyrValGluArgArgArgTyrValLysThrAspAlaA
 laMetLysAspLysIleIleAlaHisGlnLysLysCysGlyGlnThr-119
 124-LeuAspAlaArgAsnAlaLeuProSerAsnGlnThrTyrGlnGlnArgGlnAlaAla-142
 144-GluGlnLeuLysArgArgPheGluAlaGluPheAspGluLeuGluLysGluIleLysCysAsnGlyLysPro
 Thr-168

Hydrophilic Regions - Hopp-Woods

17-CysGlyLysAspAlaGlyGly-23
 27-TyrTrpArgGluLysSerAspLysLysGluGlyValIleAlaValLysLysLysGly-45
 56-ThrGlyLysGluGluSerLeuLeuLeuSerGluLysAspGlyAla-70
 80-IleProIleLysLeuSerAspAspGlyLysGluLeuTyrValGluArgArgArgTyrValLysThrAspAlaA
 laMetLysAspLysIleIleAlaHisGlnLysLysCysGlyGln-118
 124-LeuAspAlaArgAsnAlaLeu-130
 136-TyrGlnGlnArgGlnAlaAla-142
 144-GluGlnLeuLysArgArgPheGluAlaGluPheAspGluLeuGluLysGluIleLysCysAsnGlyLys-16
 6

g926**AMPHI Regions - AMPHI**

29-ProSerGluHisIleSerSerPhe-36
 72-LeuGlySerThrLeuGlyGln-78
 98-AlaGluGlyThrGluAspLeuSerArgGln-107

Antigenic Index - Jameson-Wolf

19-LeuProGlnAsnAsnGluAsnLeuTrpGlnProSerGluHisIleSer-34
 37-AlaAlaGluGlyArgLeuAlaValLysAlaGluGlyLysGlySerTyrAla-53
 70-ThrProLeuGlySer-74
 79-LeuCysGlnAspArgAspGlyAlaLeu-87
 89-ValAspGlyLysGlyAsnValTyr-96
 98-AlaGluGlyThrGluAspLeuSerArgGln-107
 123-GluGlyArgArgValAlaGlyAlaProTyrArgIleArgSerAspGlyIleLeu-140
 143-TyrGlyTrpThrIleGlyGlnAsnCysArgGlnTrpGly-155
 157-SerProAsnValAlaThrGlu-163

Hydrophilic Regions - Hopp-Woods

37-AlaAlaGluGlyArgLeuAlaValLysAlaGluGlyLysGlySer-51
 80-CysGlnAspArgAspGlyAlaLeu-87
 89-ValAspGlyLysGly-93
 99-GluGlyThrGluAspLeuSerArg-106
 123-GluGlyArgArgValAla-128
 132-TyrArgIleArgSerAspGlyIleLeu-140

g927**AMPHI Regions - AMPHI**

-921-

13-LeuLeuThrAlaCys-17
 48-SerTyrAspValThrArgTyrPheTyrLysGlu-58
 120-LysGlyTrpGlnGlnAlaLeuPro-127
 145-AsnProLysGlnIleArgAspTrpAsnAspLeuAlaLysAspGly-159
 195-LysLeuValAlaSerIleLeu-201

Antigenic Index - Jameson-Wolf

17-CysSerProAlaAlaAspSerAsnHisProSerGlyGlnAsnAlaProAlaAsnThrGluSerAspGlyLysA
 snIle-42
 65-GlyThrTyrGlnSerGluHisProGlyThrSer-75
 81-SerHisGlyGlyPheSer-86
 104-AsnGlnSerSerAspIleAspLeuLeuGluLysXxxGlyLeuVal-118
 126-LeuProAspHisAlaAlaProTyrThr-134
 142-ArgLysAsnAsnProLysGlnIleArgAspTrpAsnAspLeuAlaLysAspGlyVal-160
 165-AlaLysThrSerGlyAsnGlyArg-172
 183-LeuLysAlaAsnAsnGlyAsnGluGlnGluAlaGlnLys-195
 201-LeuLysAsnThrProValPheGluAsnGlyGlyArgXxxProProProProSerHisAsnAlaThrSer
 -224
 229-SerLeuLeuLysThrLysProThrThrSerAlaLysAsn-241

Hydrophilic Regions - Hopp-Woods

19-ProAlaAlaAspSerAsnHisProSer-27
 33-AlaAsnThrGluSerAspGlyLysAsn-41
 68-GlnSerGluHisProGly-73
 105-GlnSerSerAspIleAspLeuLeuGluLysXxxGlyLeuVal-118
 142-ArgLysAsnAsnProLysGlnIleArgAspTrpAsnAspLeuAlaLysAspGlyVal-160
 167-ThrSerGlyAsnGly-171
 185-AlaAsnAsnGlyAsnGluGlnGluAlaGlnLys-195
 209-AsnGlyGlyArgXxxProProPro-216
 231-LeuLysThrLysProThrThrSerAlaLysAsn-241

g929**AMPHI Regions - AMPHI**

25-ValProAspGlyValLys-30
 34-TrpThrLeuLeuAlaMetPheValGlyValIleAlaAlaIleIleGly-49
 53-ProLeuGlyAlaLeuSer-58
 76-GlyAlaAlaMetSerAspAlaLeuSerAlaPhe-86
 155-HisProIleMetGlnSerIleAlaGlySerTyrGlySerAsnProAlaLys-171
 180-TyrLeuAlaLeuVal-184
 187-HisSerAsnProIle-191
 204-ProLeuIleValAsnLeuIleAlaGluAsnLeuGly-215
 233-GlyValIleAlaPhePhe-238
 265-ArgLeuSerGluMetGlyLys-271
 280-AlaValIlePheGlyIle-285
 355-LeuGlyLeuIleLysTrpPheSerGlyValLeuAlaGluSerValGlyGlyLeu-372
 398-ThrAlaHisIleThrAlaMetPheGlyAlaPheLeuAla-410
 452-TyrThrThrMetGlyGluTrpTrp-459
 469-AsnPheLeuIlePheSerValIleGlySerIleTrpTrpLysValLeuGlyTyr-486

Antigenic Index - Jameson-Wolf

25-ValProAspGlyValLysProGln-32
 71-ThrAlaAspLysProGlyAlaAlaMet-79
 122-GlyArgLysThrLeuGlyIle-128
 143-ThrProSerAsnThrAlaArgGlyGlyGly-152
 163-GlySerTyrGlySerAsnProAlaLysGlyThrGluGlyLysMetGlyLys-179
 187-HisSerAsnProIleSer-192

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213-AsnLeuGlySerSerPhe-218
 248-TyrProProGluIleLysGluThrProAsn-257
 261-PheAlaLysAspArgLeuSerGluMetGlyLysMetSerAlaAspGluIle-277
 328-AspValLeuLysGluLysSerAlaTrp-336

Hydrophilic Regions - Hopp-Woods

71-ThrAlaAspLysProGlyAlaAlaMet-79
 146-AsnThrAlaArgGly-150
 168-AsnProAlaLysGlyThrGluGlyLysMetGlyLys-179
 250-ProGluIleLysGluThrProAsn-257
 261-PheAlaLysAspArgLeuSerGluMetGlyLysMetSerAlaAspGluIle-277
 328-AspValLeuLysGluLysSerAlaTrp-336

g930-1**AMPHI Regions - AMPHI**

6-AlaGlyAspIleAsnGlnIleMetSerLeu-15
 30-IleLeuAlaAlaPro-34
 48-ProGlyTyrLeuArgSerIleArgIle-56
 82-AspLeuLeuAsnLeuArgAsp-88
 96-LeuLysCysLeuPro-100
 163-SerAspMetPheTyr-167
 171-GlyArgSerIleGlyGly-176
 216-ArgTyrHisGlnAlaValSerGlyLeuSerGluValTyrAsp-229
 283-TrpLeuAlaGluLeuSerHis-289
 308-ThrGlyMetLysAspAlaLeuArgAlaProGluGluAlaPheGlyGluGly-324
 355-HisAlaGlnTrpAsnLys-360
 457-LeuLysLysProGluTyrPhe-463

Antigenic Index - Jameson-Wolf

1-GlyLysCysLeuHisAlaGlyAsp-8
 34-ProGlnAspLeuAsnSerGlyLysLeu-42
 54-IleArgIleAspArgSerAsnAspAspGlnThrHisAlaGlyArgIleAla-70
 74-AsnLysPheProThrArgSerAsnAspLeuLeuAsn-85
 87-ArgAspLeuGluGlnGlyLeuGluAsn-95
 102-AlaGluAlaAspLeu-106
 110-ProValGluArgGluProAsnGlnSerAsp-119
 136-GlyMetAspAsnSerGlySerGluAlaThrGlyLysTyrGlnGly-150
 156-AlaAspAsnProPheGlyLeu-162
 170-TyrGlyArgSerIleGlyGlyThrProAspGluGluAsnPheAspGlyHisArgLysGluGlyGlySerAsn-193
 212-HisAsnGlyTyrArg-216
 226-GluValTyrAspTyrAsnGlyLysSerTyrAsnThrAspPheGlyPhe-241
 245-LeuTyrArgAspAlaLysArgLysThrTyrLeu-255
 260-TrpThrArgGluThrLysSerTyrIleAspAspAlaGluLeuThrValGlnArgArgLysThrThr-281
 287-LeuSerHisLysGlyTyrIleGlyArgSerThrAlaAspPheLysLeuLysTyrLysHisGlyThrGlyMetLysAspAlaLeuArgAlaProGluGluAlaPheGlyGluGlyThrSerArg-327
 334-SerAlaAspValAsnThrPro-340
 357-GlnTrpAsnLysThrProLeuThrSerGlnAspLysLeuAla-370
 375-HisThrValArgGlyPheAspGlyGluMetSerLeuProAlaGluArgGlyTrpTyrTrpArgAsnAspLeuSerTrpGlnPheLysProGlyHis-406
 418-SerGlyGlnSerAlaLys-423
 455-ArgAlaLeuLysLysProGluTyrPheGlnThrLysLysTrpValThr-470

Hydrophilic Regions - Hopp-Woods

35-GlnAspLeuAsnSerGlyLys-41
 54-IleArgIleAspArgSerAsnAspAspGlnThrHisAla-66

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76-PheProThrArgSerAsnAsp-82
87-ArgAspLeuGluGlnGlyLeuGluAsn-95
102-AlaGluAlaAspLeu-106
110-ProValGluArgGluProAsnGlnSer-118
137-MetAspAsnSerGlySerGluAlaThrGlyLysTyr-148
174-IleGlyGlyThrProAspGluGluAsnPheAspGlyHisArgLysGluGlyGlySer-192
228-TyrAspTyrAsnGly-232
245-LeuTyrArgAspAlaLysArgLysThrTyrLeu-255
260-TrpThrArgGluThrLysSerTyrIleAspAspAlaGluLeuThrValGlnArgArgLysThrThr-281
296-SerThrAlaAspPheLysLeuLysTyrLysHis-306
308-ThrGlyMetLysAspAlaLeuArgAlaProGluGluAlaPheGly-322
362-ProLeuThrSerGlnAspLysLeuAla-370
378-ArgGlyPheAspGlyGluMet-384
455-ArgAlaLeuLysLysProGluTyrPheGln-464

g931**AMPHI Regions - AMPHI**

43-LysAlaSerLysThrValAlaAsnPheValArgTyrAlaArgLys-57
67-ArgValIleGlyGly-71
81-GluAspLeuValGlnLysAlaThrAspLysAla-91
93-AlaAsnGluSerGlyAsnGlyLeuLysAsnThrValGly-105
142-ThrValPheGlyArgValGluSerGlyMetAspThrValSerLysIleAlaArgValLysThrAlaThrArg
GlyPhe-167

Antigenic Index - Jameson-Wolf

1-MetLysProLysPhe-5
30-ThrAspMetGlyAsn-34
38-ValLeuAspGluSerLysAlaSerLysThr-47
54-TyrAlaArgLysGlyPheTyrAspAsn-62
75-GlnGlyAspGlyLeuThrGluAspLeuValGlnLysAlaThrAspLysAlaValAlaAsnGluSerGlyAsnG
lyLeuLysAsnThrVal-104
113-AlaAlaProAspSerAla-118
127-AlaAspAsnGlySerLeuAspTyrLysAsnGlyGlnTyrGly-140
145-GlyArgValGluSerGlyMetAspThrValSerLysIleAlaArgValLysThrAlaThrArgGlyPhe-16
7
176-ValLysIleArgArg-180

Hydrophilic Regions - Hopp-Woods

1-MetLysProLysPhe-5
30-ThrAspMetGlyAsn-34
38-ValLeuAspGluSerLysAlaSerLysThr-47
78-GlyLeuThrGluAspLeuValGlnLysAlaThrAspLysAlaValAlaAsnGluSerGlyAsnGlyLeu-100
113-AlaAlaProAspSerAla-118
130-GlySerLeuAspTyrLysAsn-136
145-GlyArgValGluSerGlyMetAspThrValSerLysIleAlaArgValLysThrAlaThr-164
176-ValLysIleArgArg-180

g933**AMPHI Regions - AMPHI**

26-ProAsnIleProAlaLeuPheProLysHisProPheAspProPheGluAsnIleAsnAsnSerLysLys-48
63-GlyPheAlaArgGly-67
78-GluLysProLeuArgGlnTyrPheLysAspCysValAsnThr-91
101-IleSerSerPheGlyAsn-106
135-ValGlyAsnTyrIleGluTrpLeu-142
145-ThrLeuAsnLysLeuThrGlyTrpGlnGluHisLeuTyrAlaGlyLeuAspProPheHisTyrIleGluVal
-168
264-AlaLeuAspAsnLeuLysHisLeuAspGlyHisGlnIleValLysValAsn-280

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309-GlyPhePheThrLys-313
 356-TrpLeuArgValIleAspGlyHisSerAsn-365
 374-ProValGluGlyTyrArgLysGly-381
 431-AlaGlyValTyrAlaThrTrpHis-438
 447-AlaTyrValAspSerTrpMetGlnTyrGln-456
 474-LysGlyIleThrAlaSer-479
 483-GlyTyrAsnAlaLeuLeuAla-489
 555-GlnProPheValAlaVal-560
 606-PheAsnArgGlnThrSer-611

Antigenic Index - Jameson-Wolf

1-LysLysLeuArgAspArgAsnSerGluTyrTrpLysGluGluThrTyrHisIleLysSerAsnGlyArgThrTyr
 rPro-26
 33-ProLysHisProPheAspProPheGluAsnIleAsnAsnSerLysLysIleSerPheTyrAspLysGluTyrT
 hrGluAspTyr-60
 68-PheGlyValGluLysArgAsnGlyGluGluGluLysProLeuArg-82
 88-CysValAsnThrGluAsnSerAsnAsnAspAsnCysLysIleSerSer-103
 112-IleLysSerAspIle-116
 122-GlnIleLysAsnSerHisIleAsnSerGluIle-132
 144-ProThrLeuAsnLysLeuThrGlyTrpGlnGlu-154
 167-GluValThrAspAsnSerHis-173
 189-SerLeuTrpLysProArgTrpAsnSerAsnIle-199
 205-LysAsnAlaGluIleArgPheAsnThrLysAsnGluSerLeuLeuValLysGluAspTyrAlaGlyGlyAla
 ArgPhe-230
 234-TyrAspLeuLysAspLysValProGlu-242
 248-PheGluLysAsnIleThrGlyThrSer-256
 263-LysAlaLeuAspAsnLeuLysHisLeuAspGlyHisGlnIleValLysValAsnAspThrAlaAspLysAsp
 AlaPheArgLeuSerSerLysTyrArgLys-296
 303-LeuGlnGlnArgProGluGlyPhe-310
 313-LysValGlnGluArgAspAspIle-320
 337-ArgLeuAsnAspLysAsnSerAspIlePheAspArgThrLeuProArgLysGlyLeu-355
 360-IleAspGlyHisSerAsnGlnTrpValGlnGlyLysThrAlaProValGluGlyTyrArgLysGlyVal-38
 2
 392-GlnAsnGluSerAsnGlnLeu-398
 403-MetGlyGlyGlnAlaGluGlnArgSerThrPheArgAsnProAspThrAspAsnLeuThr-422
 424-GlyAsnValLysGly-428
 440-LeuGlnAspLysGlnThrGlyAlaTyr-448
 456-GlnArgPheArgHisArgIleAsnThrGluTyrAlaThrGluArgPheThrSerLysGlyIle-476
 491-HisPheThrLysLysGlyAsnSerLeu-499
 514-ValAsnGlyLysPheSerAspSerGluAsnAla-524
 529-LeuGlySerArgGlnLeuGlnSerArgValGlyVal-540
 567-LysProPheGlyValGluIleAspGlyAspArgArgValIleAsnAsnLysThrValIleGluThr-588
 594-AlaLysIleLysSer-598
 605-SerPheAsnArgGlnThrSerLysHisHisHisAlaLys-617

Hydrophilic Regions - Hopp-Woods

1-LysLysLeuArgAspArgAsnSerGluTyrTrpLysGluGluThrTyrHis-17
 20-SerAsnGlyArgThr-24
 35-HisProPheAspPro-39
 44-AsnAsnSerLysLysIleSerPheTyrAspLysGluTyrThrGlu-58
 68-PheGlyValGluLysArgAsnGlyGluGluGluLysProLeu-81
 88-CysValAsnThrGluAsnSerAsnAsnAspAsnCysLys-100
 205-LysAsnAlaGluIleArgPheAsnThrLysAsnGluSerLeuLeuValLysGluAspTyrAlaGly-226
 234-TyrAspLeuLysAspLysValProGlu-242
 250-LysAsnIleThrGly-254

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263-LysAlaLeuAspAsnLeuLysHisLeuAsp-272
 278-LysValAsnAspThrAlaAspLysAspAlaPheArgLeuSerSerLysTyrArgLys-296
 304-GlnGlnArgProGluGlyPhe-310
 314-ValGlnGluArgAspAspIle-320
 338-LeuAsnAspLysAsnSerAspIlePheAsp-347
 376-GluGlyTyrArgLysGlyVal-382
 393-AsnGluSerAsnGln-397
 406-GlnAlaGluGlnArgSerThrPheArgAsnProAspThrAspAsnLeuThr-422
 440-LeuGlnAspLysGlnThr-445
 456-GlnArgPheArgHisArgIleAsnThr-464
 491-HisPheThrLysLysGlyAsnSer-498
 517-LysPheSerAspSerGluAsnAla-524
 532-ArgGlnLeuGlnSer-536
 569-PheGlyValGluIleAspGlyAspArgArgValIleAsn-581
 594-AlaLysIleLysSer-598
 606-PheAsnArgGlnThrSerLysHisHisHisAlaLys-617

g933**AMPHI Regions - AMPHI**

26-ProAsnIleProAlaLeuPheProLysHisProPheAspProPheGluAsnIleAsnAsnSerLysLys-48
 63-GlyPheAlaArgGly-67
 78-GluLysProLeuArgGlnTyrPheLysAspCysValAsnThr-91
 101-IleSerSerPheGlyAsn-106
 135-ValGlyAsnTyrIleGluTrpLeu-142
 145-ThrLeuAsnLysLeuThrGlyTrpGlnGluHisLeuTyrAlaGlyLeuAspProPheHisTyrIleGluVal-168
 264-AlaLeuAspAsnLeuLysHisLeuAspGlyHisGlnIleValLysValAsn-280
 309-GlyPhePheThrLys-313
 356-TrpLeuArgValIleAspGlyHisSerAsn-365
 374-ProValGluGlyTyrArgLysGly-381
 431-AlaGlyValTyrAlaThrTrpHis-438
 447-AlaTyrValAspSerTrpMetGlnTyrGln-456
 474-LysGlyIleThrAlaSer-479
 483-GlyTyrAsnAlaLeuLeuAla-489
 555-GlnProPheValAlaVal-560
 606-PheAsnArgGlnThrSer-611

Antigenic Index - Jameson-Wolf

1-LysLysLeuArgAspArgAsnSerGluTyrTrpLysGluGluThrTyrHisIleLysSerAsnGlyArgThrTyrPro-26
 33-ProLysHisProPheAspProPheGluAsnIleAsnAsnSerLysLysIleSerPheTyrAspLysGluTyrThrGluAspTyr-60
 68-PheGlyValGluLysArgAsnGlyGluGluGluLysProLeuArg-82
 88-CysValAsnThrGluAsnSerAsnAsnAspAsnCysLysIleSerSer-103
 112-IleLysSerAspIle-116
 122-GlnIleLysAsnSerHisIleAsnSerGluIle-132
 144-ProThrLeuAsnLysLeuThrGlyTrpGlnGlu-154
 167-GluValThrAspAsnSerHis-173
 189-SerLeuTrpLysProArgTrpAsnSerAsnIle-199
 205-LysAsnAlaGluIleArgPheAsnThrLysAsnGluSerLeuLeuValLysGluAspTyrAlaGlyGlyAlaArgPhe-230
 234-TyrAspLeuLysAspLysValProGlu-242
 248-PheGluLysAsnIleThrGlyThrSer-256
 263-LysAlaLeuAspAsnLeuLysHisLeuAspGlyHisGlnIleValLysValAsnAspThrAlaAspLysAspAlaPheArgLeuSerSerLysTyrArgLys-296
 303-LeuGlnGlnArgProGluGlyPhe-310

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313-LysValGlnGluArgAspAspIle-320
 337-ArgLeuAsnAspLysAsnSerAspIlePheAspArgThrLeuProArgLysGlyLeu-355
 360-IleAspGlyHisSerAsnGlnTrpValGlnGlyLysThrAlaProValGluGlyTyrArgLysGlyVal-382
 392-GlnAsnGluSerAsnGlnLeu-398
 403-MetGlyGlyGlnAlaGluGlnArgSerThrPheArgAsnProAspThrAspAsnLeuThr-422
 424-GlyAsnValLysGly-428
 440-LeuGlnAspLysGlnThrGlyAlaTyr-448
 456-GlnArgPheArgHisArgIleAsnThrGluTyrAlaThrGluArgPheThrSerLysGlyIle-476
 491-HisPheThrLysLysGlyAsnSerLeu-499
 514-ValAsnGlyLysPheSerAspSerGluAsnAla-524
 529-LeuGlySerArgGlnLeuGlnSerArgValGlyVal-540
 567-LysProPheGlyValGluIleAspGlyAspArgArgValIleAsnAsnLysThrValIleGluThr-588
 594-AlaLysIleLysSer-598
 605-SerPheAsnArgGlnThrSerLysHisHisHisAlaLys-617

Hydrophilic Regions - Hopp-Woods

1-LysLysLeuArgAspArgAsnSerGluTyrTrpLysGluGluThrTyrHis-17
 20-SerAsnGlyArgThr-24
 35-HisProPheAspPro-39
 44-AsnAsnSerLysLysIleSerPheTyrAspLysGluTyrThrGlu-58
 68-PheGlyValGluLysArgAsnGlyGluGluGluLysProLeu-81
 88-CysValAsnThrGluAsnSerAsnAsnAspAsnCysLys-100
 205-LysAsnAlaGluIleArgPheAsnThrLysAsnGluSerLeuLeuValLysGluAspTyrAlaGly-226
 234-TyrAspLeuLysAspLysValProGlu-242
 250-LysAsnIleThrGly-254
 263-LysAlaLeuAspAsnLeuLysHisLeuAsp-272
 278-LysValAsnAspThrAlaAspLysAspAlaPheArgLeuSerSerLysTyrArgLys-296
 304-GlnGlnArgProGluGlyPhe-310
 314-ValGlnGluArgAspAspIle-320
 338-LeuAsnAspLysAsnSerAspIlePheAsp-347
 376-GluGlyTyrArgLysGlyVal-382
 393-AsnGluSerAsnGln-397
 406-GlnAlaGluGlnArgSerThrPheArgAsnProAspThrAspAsnLeuThr-422
 440-LeuGlnAspLysGlnThr-445
 456-GlnArgPheArgHisArgIleAsnThr-464
 491-HisPheThrLysLysGlyAsnSer-498
 517-LysPheSerAspSerGluAsnAla-524
 532-ArgGlnLeuGlnSer-536
 569-PheGlyValGluIleAspGlyAspArgArgValIleAsn-581
 594-AlaLysIleLysSer-598
 606-PheAsnArgGlnThrSerLysHisHisHisAlaLys-617

g936-1**AMPHI Regions - AMPHI**

10-ThrLeuIleAlaAla-14
 19-AlaLeuGlyGlyCysPheSerAlaVal-27
 100-GlnPheValGlyGlnIle-105
 112-AlaGluGlyValTyrAsnTyrIleThrValAlaSerLeuProArgThrAlaGlyAspIleAlaGlyAsp-134

Antigenic Index - Jameson-Wolf

1-MetLysProLysProHisThrVal-8
 37-SerValIleAspArgArgThrThrGlyAlaGlnThrAspAsnValMet-53
 56-ArgIleGluThrThrAlaArgSerTyrLeuArgGlnAsnAsnGlnThrLysGlyTyr-74
 94-AlaThrGluGlyGluLysGlnPhe-101

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106-AlaArgSerGluGlnAlaAla-112
 124-LeuProArgThrAlaGlyAspIleAlaGlyAspThrTrpAsnThrSerLysValArgAla-143
 149-SerProAlaThrGlnAlaArgValLys-157
 172-ThrProGluGluGlnAlaGlnIleThr-180

Hydrophilic Regions - Hopp-Woods

1-MetLysProLysProHisThr-7
 37-SerValIleAspArgArgThrThrGlyAlaGlnThrAspAspAsnValMet-53
 56-ArgIleGluThrThrAla-61
 68-AsnAsnGlnThrLysGlyTyr-74
 94-AlaThrGluGlyGluLysGlnPhe-101
 106-AlaArgSerGluGlnAlaAla-112
 125-ProArgThrAlaGly-129
 152-ThrGlnAlaArgValLys-157
 172-ThrProGluGluGlnAlaGlnIle-179

g937**AMPHI Regions - AMPHI**

121-LysArgMetSerAspIleSerAlaGlyIleSerHis-132
 231-LysGlnProAspArgIleAsp-237

Antigenic Index - Jameson-Wolf

18-ThrAspLeuProLeuAsnIle-24
 26-AspIleMetThrAspLysGlyLysTrpLysLeuGluThr-38
 43-LeuAsnSerGluAsnSerArgAlaAlaLeu-52
 69-ProThrGluIleGlnGluAsnGlySerAsnThrAsp-80
 94-GlyAsnThrAspIleTyrGlySerGlySer-103
 107-HisGluGluArgLysLeuAspGlyAsnGlyLysThrArgAsnLysArgMetSerAspIle-126
 134-PheLeuLysAspGlyLysAsnProAla-142
 150-ThrValTyrGluLysSerArgAsnLysAlaSerSerGlyLys-163
 186-TyrArgIleAsnGlySerLysThrLeuSerAspValLysTyrLysAlaGly-203
 216-AlaAsnAspArgIleSerLeuThrGlyGly-225
 230-GlyLysGlnProAspArgIleAspGlyLysLysGluSerAlaArgAsnThrSerThr-248
 272-ValSerGlyGlnSerSerSerGluLeuLysLeu-282

Hydrophilic Regions - Hopp-Woods

26-AspIleMetThrAspLysGlyLysTrpLysLeu-36
 46-GluAsnSerArgAlaAlaLeu-52
 71-GluIleGlnGluAsnGlySerAsnThr-79
 107-HisGluGluArgLysLeuAspGlyAsnGlyLysThrArgAsnLysArgMetSerAspIle-126
 134-PheLeuLysAspGlyLysAsn-140
 150-ThrValTyrGluLysSerArgAsnLysAlaSerSerGly-162
 192-LysThrLeuSerAspAspValLysTyrLysAla-202
 216-AlaAsnAspArgIleSer-221
 231-LysGlnProAspArgIleAspGlyLysLysGluSerAlaArgAsn-245
 276-SerSerSerGluLeuLysLeu-282

g950**AMPHI Regions - AMPHI**

33-GlyValGlnLysSerAlaGlnGly-40
 81-AlaThrValLysLysAlaHisLysHisThrLysAla-92

Antigenic Index - Jameson-Wolf

1-MetAsnLysAsnIle-5
 26-LysProAlaSerAsnAlaThrGlyValGlnLysSerAlaGlnGlySerCysGlyAlaSerLysSerAlaGluGlySerCysGlyAlaSerLysSerAlaGluGlySerCysGly-63

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65-AlaAlaSerLysAlaGlyGluGlyLysCysGlyGluGlyLysCysGlyAlaThrValLysLysAlaHisLysHisThrLysAlaSerLysAlaLysAlaLysSerAlaGluGlyLysCysGlyGluGlyLysCysGlySerLys-112

Hydrophilic Regions - Hopp-Woods

33-GlyValGlnLysSerAlaGln-39
 43-GlyAlaSerLysSerAlaGluGlySerCysGlyAlaSerLysSerAlaGluGlySerCys-62
 65-AlaAlaSerLysAlaGlyGluGlyLysCysGlyGluGlyLysCys-79
 81-AlaThrValLysLysAlaHisLysHisThrLysAlaSerLysAlaLysAlaLysSerAlaGluGlyLysCysGlyGluGlyLysCysGlySerLys-112

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AMPHI Regions - AMPHI

9-ThrIleLeuSerValLeuAlaAla-16
 32-GluLeuProLysGluValGlyLysValLeuArgLysHisArgArgTyr-47
 62-ValGlyGluArgValAsnArgValPhe-70
 127-TrpArgGlnIleGluProIleProGlyGlu-136
 145-ArgAsnValLeuArgGluGlyGlyAsnGlnHisLeuAspGlyLeuGluGluValLeuAla-164
 189-AlaGlnLysAlaSerLysAlaValArgArg-198
 204-GluHisLeuProGluAlaAla-210
 227-IleGluAlaLeuGlnArgLeuAlaLysLeu-236
 254-LysTyrProGluIleLeuAspGlyPhePheGlu-264
 278-MetGluIleMetAsnLeuValSerLeuArgLysProAspAspAla-292
 325-ValIleAspGlyTyrAlaGluLys-332
 362-ValArgGlnTrpLeuLys-367
 395-AlaLeuArgGlnIleGlyArgValArgLysLeuProGluGlnGln-409
 416-AspAsnLeuSerLysIle-421
 423-MetLeuAlaLeuSer-427
 441-AsnIleIleAlaLysLeuSerAlaAlaGlySerThrGluProLeuAlaGlu-457
 474-LysMetIleAlaAspLeuGluThr-481
 495-AsnLeuGlyTyrSer-499
 503-AspSerLysArgLeu-507
 563-HisLeuGlyGluVal-567
 579-AspValTrpThrGlnAla-584
 592-LysIleTrpArgGluThrLeuLys-599

Antigenic Index - Jameson-Wolf

29-AlaAspValGluLeuProLysGluValGlyLysValLeuArgLysHisArgArgTyrSerGluGluGluIleLysAsnGluArgAlaArgLeu-59
 61-AlaValGlyGluArgValAsnArg-68
 77-ThrAlaLeuGlnLysGlyGlnAla-84
 96-GluArgThrLysSerProGluValAlaGluArgAlaLeuGlu-109
 126-LysTrpArgGlnIleGluProIleProGlyGluAlaGlnLysArgAlaGlyTrp-143
 147-ValLeuArgGluGlyGlyAsnGlnHisLeuAspGlyLeuGluGluValLeuAlaGlnSerAspAspValGlnLysArgArgIle-174
 187-GlyValAlaGlnLysAlaSerLysAlaValArgArgAlaAlaLeuLys-202
 219-GlnGlyArgGluLysGluLysAlaIleGluAlaLeuGlnArgLeuAlaLysLeuAspThrGluIleLeuPro-242
 250-LeuThrAlaArgLysTyrProGluIleLeuAspGlyPhePheGluGlnThrAspThrGlnAsn-270
 285-SerLeuArgLysProAspAspAlaTyrAla-294
 301-GluHisAsnProAsnAlaAsn-307
 317-AlaAsnArgLysGluGlyAlaSer-324
 326-IleAspGlyTyrAlaGluLysAlaTyrGlyArgGlyThrGlyGluGlnArgGlyArgAla-345
 354-AlaAspArgArgAspTyrAlaLys-361
 364-GlnTrpLeuLysLysValSerAlaPro-372
 375-LeuPheAspLysGlyVal-380
 387-AlaGluLeuAspGlyGlyArgAlaAlaLeu-396

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398-GlnIleGlyArgValArgLysLeuProGluGlnGlnGlyArgTyrPheThr-414
 428-LysLeuProAspLysArgGluAlaLeu-436
 447-SerAlaAlaGlySerThrGluProLeuAla-456
 467-GluGlnPheGlyLysArgGlyLysMetIleAlaAspLeuGluThr-481
 485-LeuThrProAspAsn-489
 501-LeuSerAspSerLysArgLeuAspGluGlyPhe-511
 519-GlnIleAsnProAspAspThrAlaValAsnAspSerIle-531
 537-LeuLysGlyAspAlaGluSerAla-544
 549-ArgTyrSerPheGluAsnAspProGluProGluVal-560
 572-GlyGluArgAspGlnAla-577
 585-AlaHisLeuArgGlyAspLysLysIleTrpArgGluThrLeuLysArgTyrGly-602
 604-AlaLeuProGluProSerArgLysProArgLys-614

Hydrophilic Regions - Hopp-Woods

29-AlaAspValGluLeuProLysGluValGlyLysValLeuArgLysHisArgArgTyrSerGluGluIleLysAsnGluArgAlaArgLeu-59
 61-AlaValGlyGluArgValAsnArg-68
 77-ThrAlaLeuGlnLysGlyGlnAla-84
 96-GluArgThrLysSerProGluValAlaGluArgAlaLeuGlu-109
 133-IleProGlyGluAlaGlnLysArgAlaGlyTrp-143
 147-ValLeuArgGluGlyGlyAsnGlnHis-155
 157-AspGlyLeuGluGluValLeuAlaGlnSerAspAspValGlnLysArgArgIle-174
 188-ValAlaGlnLysAlaSerLysAlaValArgArgAlaAlaLeuLys-202
 219-GlnGlyArgGluLysGluLysAlaIleGluAlaLeuGlnArgLeuAlaLysLeuAspThrGluIle-240
 250-LeuThrAlaArgLysTyrProGluIle-258
 263-PheGluGlnThrAspThrGlnAsn-270
 285-SerLeuArgLysProAspAspAlaTyrAla-294
 317-AlaAsnArgLysGluGlyAlaSer-324
 329-TyrAlaGluLysAlaTyrGly-335
 337-GlyThrGlyGluGlnArgGlyArgAla-345
 354-AlaAspArgArgAspTyrAlaLys-361
 387-AlaGluLeuAspGlyGlyArgAlaAlaLeu-396
 398-GlnIleGlyArgValArgLysLeuProGluGlnGlnGly-410
 428-LysLeuProAspLysArgGluAlaLeu-436
 450-GlySerThrGluProLeuAla-456
 469-PheGlyLysArgGlyLysMetIleAlaAspLeuGluThr-481
 485-LeuThrProAspAsn-489
 502-SerAspSerLysArgLeuAspGlu-509
 521-AsnProAspAspThrAlaVal-527
 539-GlyAspAlaGluSer-543
 552-PheGluAsnAspProGluProGluVal-560
 572-GlyGluArgAspGlnAla-577
 587-LeuArgGlyAspLysLysIleTrpArgGluThrLeuLys-599
 607-GluProSerArgLysProArgLys-614
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AMPHI Regions - AMPHI

47-SerValAlaThrLeuLeuAsn-53
 66-LeuGluLysLeuGlyLysGluGlnMetArgAla-76
 78-PheGluAspMetArgArgIle-84
 100-GluGlnLeuAlaGlnLeu-105
 122-SerValLeuArgGlyVal-127
 147-AlaGlnPheLeuGluAla-152

Antigenic Index - Jameson-Wolf

24-GlnSerTrpLysAlaArgArgAspPheAsnIleValLysGlnAspLeuAspPheSerCys-43

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59-LysLeuThrGluGluGluValLeuGluLysLeuGlyLysGluGlnMetArgAlaSerPheGluAspMetArgArgIleMetPro-86
 88-LeuGlyPheGluAlaLysGlyTyr-95
 113-LeuLysTyrArgLysAspAspHisPheSer-122
 125-ArgGlyValAspGlyAsnThr-131
 135-AlaAspProSerProGlyHis-141
 153-TrpGlnThrArgGluGlyAsnLeuAlaGly-162
 168-ValProLysLysAlaGluAlaIleSer-176
 183-HisHisProLysArgGlnThrGlu-190

Hydrophilic Regions - Hopp-Woods

25-SerTrpLysAlaArgArgAspPheAsnIleValLysGlnAspLeuAspPhe-41
 59-LysLeuThrGluGluGluValLeuGluLysLeuGlyLysGluGlnMetArgAlaSerPheGluAspMetArgArgIleMetPro-86
 88-LeuGlyPheGluAlaLysGly-94
 114-LysTyrArgLysAspAspHisPheSer-122
 153-TrpGlnThrArgGluGlyAsnLeu-160
 168-ValProLysLysAlaGluAlaIleSer-176
 184-HisProLysArgGlnThrGlu-190

g953**AMPHI Regions - AMPHI**

38-AsnThrSerThrAsnValGlyGlyPheTyrGlyLeuThr-50
 79-ProPheThrGlyHis-83
 85-LysSerAlaAspIlePheAspAlaAlaGln-94
 150-GlyAspPheSerThrThr-155

Antigenic Index - Jameson-Wolf

21-TyrLysValAspGluTyrHisAla-28
 37-PheAsnThrSerThrAsnVal-43
 53-ValGluPheAspGlnAlaLysArgAspGlyLysIleAspIle-66
 74-GlnSerGlySerGlnPro-79
 94-GlnTyrProAspIleArgPheValSer-102
 104-LysPheAsnPheAsnGlyLysLysLeuValSer-114
 121-MetArgGlyLysThrAlaProValLysLeuLysAlaGluLys-134
 136-AsnCysTyrGlnSerProMetAlaGluThrGluValCysGlyGlyAspPheSerThrThrIleAspArgThrLysTrpGlyValAsp-164
 170-GlyMetThrLysAsnValArgIle-177
 179-IleGlnIleGluAlaAlaLysGln-186

Hydrophilic Regions - Hopp-Woods

21-TyrLysValAspGluTyrHisAla-28
 53-ValGluPheAspGlnAlaLysArgAspGlyLysIleAspIle-66
 107-PheAsnGlyLysLysLeuValSer-114
 121-MetArgGlyLysThrAlaProValLysLeuLysAlaGluLys-134
 142-MetAlaGluThrGluValCysGly-149
 154-ThrThrIleAspArgThrLysTrp-161
 173-LysAsnValArgIle-177
 179-IleGlnIleGluAlaAlaLysGln-186

g957-2**AMPHI Regions - AMPHI**

11-SerPhePheAlaLeuValPheAla-18
 39-AlaThrGluValProGluAsnPro-46
 48-AlaPheValAlaLysLeuAlaArgLeuPheArgAsnAla-60
 74-GluGluSerLeuAlaGlyAlaValAspAsp-83
 167-HisGlyGluAsnTyrGluThr-173

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198-GluAspValTyrGluHisCysLeuGlyCysTyrGlnMet-210
 218-TyrArgAspValAlaAsn-223
 235-SerAsnArgIleAlaSer-240
 251-MetArgGluLeuMetProArg-257
 355-GluLysGluValSerArgTyrAlaGluAlaAlaAlaArg-367

Antigenic Index - Jameson-Wolf

29-IleAsnProArgTrp-33
 35-LeuSerAspThrAlaThrGluValProGluAsnProAsnAla-48
 57-PheArgAsnAlaAspArgAla-63
 67-ValLysGluSerMetArgThrGluGluSerLeu-77
 80-AlaValAspAspGlyProLeuGlnSerGluLysAspTyr-92
 98-ArgLeuSerArgLeuLysGluLysAlaLys-107
 112-ThrGluGlnGluHisGlyGlu-118
 125-TyrIleGlyGluGlyGly-130
 136-LeuSerGlnArgSerProGluAlaPheVal-145
 149-TyrLeuTyrArgAsnAspArgProPheSer-158
 166-AlaHisGlyGluAsnTyrGluThrThrGlyGluTyrArgVal-179
 182-GlnProAspGlySerVal-187
 190-AlaAlaGlyArgGlyLysIleGlyGluAspValTyr-201
 217-LysTyrArgAspValAlaAsnAspGluGlnLysValTrpAspPheArgGluGluSerAsnArgIleAlaSer
 AspSerArgAspTyrVal-246
 250-AsnMetArgGluLeuMetProArgGlyMetLysAlaAsnSer-263
 267-GlyTyrAspAlaAspGlyLeuProGlnLys-276
 280-SerPheAspAsnGlyLysLysArgGlnSerPheGluTyrTyrLeuLysAsnGlyAsn-298
 309-LeuLysAlaAspGlyValThr-315
 329-LeuAspGlyGlyArgIleIleArgGluGluLysGlnGlyAspArgLeuProAspPhe-347
 349-LeuAsnLeuGluAspLeuGluLysGluValSerArgTyrAlaGluAlaAlaAlaArgArgSerGlyGlyArg
 ArgGlyLeuSerHis-377

Hydrophilic Regions - Hopp-Woods

38-ThrAlaThrGluValProGluAsnPro-46
 57-PheArgAsnAlaAspArgAla-63
 67-ValLysGluSerMetArgThrGluGluSerLeu-77
 80-AlaValAspAspGlyProLeuGlnSerGluLysAspTyr-92
 98-ArgLeuSerArgLeuLysGluLysAlaLys-107
 112-ThrGluGlnGluHisGlyGlu-118
 136-LeuSerGlnArgSerProGlu-142
 151-TyrArgAsnAspArgProPhe-157
 169-GluAsnTyrGluThrThrGlyGluTyr-177
 190-AlaAlaGlyArgGlyLysIleGlyGluAspValTyr-201
 217-LysTyrArgAspValAlaAsnAspGluGlnLysValTrpAspPheArgGluGluSerAsnArgIleAlaSer
 AspSerArgAsp-244
 250-AsnMetArgGluLeuMetProArgGlyMetLys-260
 268-TyrAspAlaAspGlyLeuPro-274
 282-AspAsnGlyLysLysArgGlnSer-289
 309-LeuLysAlaAspGlyValThr-315
 331-GlyGlyArgIleIleArgGluGluLysGlnGlyAspArgLeuPro-345
 349-LeuAsnLeuGluAspLeuGluLysGluValSerArgTyrAlaGluAlaAlaAlaArgArgSerGlyGlyArg
 ArgGlyLeuSer-376

g958**AMPHI Regions - AMPHI**

39-GlyGlyAlaGlnGlyAlaSerGluSerAlaGln-49
 85-ProGluAspTyrThrArgIleValAlaAsp-94
 175-GlyArgArgLeuGlnSerValSerArgThrAlaGluMetLeuGly-189

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342-IleSerAspThrLeuGln-347
400-GlnLysTyrGlnThrLeuAlaAsn-407
426-TrpHisLysAsnAlaGly-431
489-GlyGlyLysAlaSerArgSerValGlyArgValLeuProValVal-503
526-IleGluProArgLeu-530
540-GlnAsnAspLeuProAsnPheAsp-547
571-AsnAlaAlaAsnSerLeuSerThrAlaValGlnSer-582

615-ValGlyLysAsnPro-619
692-AspLysLeuSerGln-696
722-LysLysProIleGlu-726

768-AspLeuSerSerValGlyArgAsnPro-776

Antigenic Index - Jameson-Wolf

19-GlyThrHisCysAla-23
27-ValAlaAlaGluGluAlaAspGlyArgValAlaGluGlyGlyAlaGlnGlyAlaSerGluSerAlaGlnAlaSer-51
62-CysSerAsnGluSerGlySerProGluArgThrGluAlaAlaValGlnGlySerGlyGluAlaSerValProGluAspTyrThrArgIleValAlaAspArgMetGluGlyGlnSerLysValLysValArgAlaGluGly-108
110-ValIleIleGluArgAspGlyAlaValLeu-119
122-AspTrpAlaAspTyrAspGlnSerGlyAsp-131
134-ThrValGlyAspArgPheAlaLeuGlnGlnAspGlyThrLeuIleArgGlyGluThrLeu-153
157-LeuAspGlnGlnThrGlyGluAlaHisAsnValArgMetGluThrGluGlnGlyGlyArgArgLeuGlnSerValSerArgThrAlaGluMetLeuGlyGluGlyArgTyrLysLeuThrGluThrGlnPheAsnThrCysSerAlaGlyAspAlaGlyTrp-210
215-AlaSerValGluAlaAspArgGlyLysGlyIleGly-226
248-PheProLeuAspGlyAsnArgLysSerGlyLeu-258
264-SerAlaGlySerAspGlyVal-270
291-GlyIleIleGlyGluArgGlyAlaThrPheAspGlyGlnIleArgTyrLeuArgProAspTyrSerGlyGlnThrAsp-316
320-LeuProHisAspLysLysSerGlyArgAsnAsnArgTyrGlnAla-334

336-TrpGlnHisArgHisAspIleSerAspThrLeu-346
351-AspPheAsnGlnValSerAspSerGlyTyrTyrArgAspPheTyrGlyGlyGluGluIleAlaGlyAsnValAsnLeuAsnArgArgValTrp-381
383-AspTyrGlyGlyArgAlaAlaGlyGlySerLeuAsn-394
400-GlnLysTyrGlnThr-404

406-AlaAsnGlnSerGlyTyrLysAspGluProTyr-416
420-ProArgLeuSerAlaAspTrpHisLysAsnAlaGlyArgAlaGlnIle-435
443-ArgPheSerHisAspGlyArgGlnAspGlySerArg-454
465-PheSerAsnSerTrpGly-470
473-ArgProLysLeuGlyLeu-478
487-SerPheGlyGlyLysAlaSerArgSerValGlyArg-498
506-AspGlyGlyThrThrPheGluArgAsnThrArgLeuPheGlyGlyGly-521
537-AlaLysSerGlnAsnAspLeuProAsnPheAspSerSerGluSerSerPheGly-554
559-PheArgGluAsnLeuTyrTyrGlyAsnAspArgIleAsnAla-572
583-ArgIleLeuAspGlyAlaThrGlyGluGluArgPheArgAlaGlyIleGlyGlnLysPheTyrPheLysAspAlaValMetLeuAspGlySerValGlyLysAsnProArgSerArgSerAspTrp-625
630-SerGlyGlyIleGlyGly-635

641-SerSerIleHisTyrAsnGlnAsnAspLysArgAlaGluHis-654
659-AlaGlyTyrArgProAlaProGlyLysValLeuAsnAlaArgTyrLysTyrGlyArgAsnGluLysIle-68

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692-AspLysLeuSerGln-696
717-TyrGlyPheGluAlaLysLysProIleGlu-726
731-AlaGluTyrLysSerSerCysGlyCysTrp-740
750-ValThrGlyGluAsnThrTyrLysAsn-758
765-GlnLeuLysAspLeuSerSerValGlyArgAsnProAlaGlyArgMetAspVal-782

792-SerLeuSerAlaGlyArgAsnLysArgPro-801

Hydrophilic Regions - Hopp-Woods

27-ValAlaAlaGluGluAlaAspGlyArgValAlaGluGlyGlyAla-41

43-GlyAlaSerGluSerAlaGlnAlaSer-51

64-AsnGluSerGlySerProGluArgThrGluAlaAlaVal-76

78-GlySerGlyGluAlaSerValProGluAspTyrThr-89

92-ValAlaAspArgMetGluGlyGlnSerLysValLysValArgAlaGluGly-108

110-ValIleIleGluArgAspGlyAla-117

124-AlaAspTyrAspGlnSerGlyAsp-131

146-ThrLeuIleArgGlyGluThr-152

159-GlnGlnThrGlyGluAlaHisAsnValArgMetGluThrGluGlnGlyGlyArgArgLeuGlnSerValSer
ArgThrAlaGluMetLeuGlyGluGlyArgTyrLysLeuThrGlu-197

215-AlaSerValGluAlaAspArgGlyLysGly-224

249-ProLeuAspGlyAsnArgLysSerGly-257

265-AlaGlySerAspGlyVal-270

293-IleGlyGluArgGlyAlaThr-299

304-IleArgTyrLeuArg-308

322-HisAspLysLysSerGlyArgAsnAsnArgTyrGlnAla-334

336-TrpGlnHisArgHisAspIleSerAsp-344

409-SerGlyTyrLysAspGluProTyr-416

422-LeuSerAlaAspTrpHisLysAsnAlaGlyArgAla-433

444-PheSerHisAspGlyArgGlnAspGlySerArg-454

488-PheGlyGlyLysAlaSerArgSerValGly-497

509-ThrThrPheGluArgAsnThrArg-516

538-LysSerGlnAsnAsp-542

547-AspSerSerGluSer-551

568-AspArgIleAsnAla-572

588-AlaThrGlyGluGluArgPheArgAla-596

603-TyrPheLysAspAspAlaValMet-610

614-SerValGlyLysAsnProArgSerArgSerAsp-624

647-GlnAsnAspLysArgAlaGluHis-654

673-TyrLysTyrGlyArgAsnGluLysIle-681

719-PheGluAlaLysLysProIleGlu-726

731-AlaGluTyrLysSer-735

765-GlnLeuLysAspLeuSerSerValGlyArgAsnProAlaGlyArgMetAspVal-782

794-SerAlaGlyArgAsnLysArgPro-801

g959**AMPHI Regions - AMPHI**

56-AlaAlaTrpAlaArgValGlyGly-63

Antigenic Index - Jameson-Wolf

24-AlaHisHisAspGlyHisGlyAspAspHisGlyHis-36
 38-AlaHisGlnHisGlyLysGlnAspLysIleIleSer-49
 51-AlaGlnAlaGluLysAlaAla-57
 60-ArgValGlyGlyLysIleThrAspIleAspLeuGluHisAspAspGlyArgProHisTyrAspValGluIleValLysAsnGlyGlnGluTyr-90
 94-ValAspAlaArgThrGlyArgValIleSerSerArgArgAspAsp-108

Hydrophilic Regions - Hopp-Woods

27-AspGlyHisGlyAspAspHisGlyHis-36
 40-GlnHisGlyLysGlnAspLysIleIleSer-49
 51-AlaGlnAlaGluLysAlaAla-57
 61-ValGlyGlyLysIleThrAspIleAspLeuGluHisAspAspGlyArgProHisTyr-79
 82-GluIleValLysAsnGlyGlnGluTyr-90
 94-ValAspAlaArgThrGlyArg-100
 102-IleSerSerArgArgAspAsp-108
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AMPHI Regions - AMPHI

12-GluArgLeuIleAlaArgLeuAlaArgGluProAspSerAlaGluAspValLeuAsnLeuLeuArgGlnAla-35
 44-AspThrLeuThrArgLeuGluLysValLeuAspPhe-55
 77-AspSerIleGluArgIleThrAlaTyr-85
 112-AspLeuLeuLysTyrMet-117
 143-AlaLeuLeuLysGluPheArgGluGln-151
 171-PheGluAspIleIleGluGlnIleValGlyAspIleGluAsp-184
 190-GluSerAlaAspAspIleHisSerVal-198
 208-AlaThrGluIleGluAspIleAsnAlaPhe-217
 235-IleGlnGluLeuGly-239

Antigenic Index - Jameson-Wolf

1-MetAspGlyAlaGlnProLysThrAsnPhe-10
 18-LeuAlaArgGluProAspSerAlaGluAspVal-28
 34-GlnAlaHisGluGlnGluValPheAspAlaAspThrLeuThrArgLeuGluLysValLeuAsp-54
 56-AlaGluLeuGluValArgAspAlaMetIleThrArgSerArgMetAsnValLeuLysGluAsnAspSerIleGluArg-81
 96-ValIleGlyGluAspLysAspGluVal-104
 118-PheAsnProGluGlnPheHis-124
 136-ProGluGlyLysSer-140
 146-LysGluPheArgGluGlnArgAsnHis-154
 159-IleAspGluTyrGlyGlyThrSerGly-167
 178-IleValGlyAspIleGluAspGluPheAspGluAspGluSerAlaAspAspIleHis-196
 199-SerAlaGluArgTrpArg-204
 209-ThrGluIleGluAsp-213
 219-GlyThrGluTyrGlySerGluGluAlaAspThr-229
 239-GlyHisLeuProValArgGlyGluLysValLeu-249
 258-AlaArgAlaAspAsnArgArgLeuHis-266

Hydrophilic Regions - Hopp-Woods

1-MetAspGlyAlaGlnProLys-7
 18-LeuAlaArgGluProAspSerAlaGluAspVal-28
 34-GlnAlaHisGluGlnGluValPheAsp-42
 44-AspThrLeuThrArgLeuGluLysValLeuAsp-54
 56-AlaGluLeuGluValArgAspAlaMetIleThrArgSerArgMetAsnValLeuLysGluAsnAspSerIleGluArg-81
 96-ValIleGlyGluAspLysAspGluVal-104

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136-ProGluGlyLysSer-140
 146-LysGluPheArgGluGlnArgAsn-153
 178-IleValGlyAspIleGluAspGluPheAspGluAspGluSerAlaAspIleHis-196
 199-SerAlaGluArgTrpArg-204
 209-ThrGluIleGluAsp-213
 222-TyrGlySerGluGluAlaAspThr-229
 243-ValArgGlyGluLysValLeu-249
 258-AlaArgAlaAspAsnArgArgLeuHis-266
g981

AMPHI Regions - AMPHI

32-AsnProGlyLysValTyrArgValAlaSer-41
 46-AlaProPheGluSerLeuAsp-52
 66-AsnAlaMetAlaLys-70
 132-LysValSerSerSerGluAspLeuLysLysMetAsnLysValGly-146
 167-LysIleAlaArgPheGlu-172
 181-LeuGluAsnGlyGlyLeuAspSerValVal-190
 197-AlaAsnTyrValLysAsnAsnPro-204
 207-GlyMetAspPheValThrLeuPro-214
 233-ValLysMetLeuAsnAspAlaLeuGluLysValArgGluSerGlyGluTyr-249

Antigenic Index - Jameson-Wolf

19-CysGlyGlyGlnGlyLysAspAlaAlaAla-28
 30-AlaAlaAsnProGlyLysValTyrArg-38
 49-GluSerLeuAspSerLysGlyAsnValGluGlyPheAsp-61
 76-IleGluPheLysHisGlnProTrpAspSer-85
 90-LeuAsnAsnGlyAspAlaAspVal-97
 104-IleThrAspAspArgLysGlnSerMetAspPheSerAspProTyrPhe-119
 127-ValProLysGlyLysLysValSerSerSerGluAspLeuLysLysMetAsnLysValGly-146
 149-ThrGlyHisThrGlyAspPheSerVal-157
 159-LysLeuLeuGlyAsnAspAsnProLysIleAlaArg-170
 179-LysGluLeuGluAsnGlyGlyLeuAspSerValValSerAspSerAla-194
 201-LysAsnAsnProAlaLysGlyMetAspPhe-210
 214-ProAspPheThrThr-218
 225-ValArgLysGlyAspGluAlaThrVal-233
 235-MetLeuAsnAspAlaLeuGluLysValArgGluSerGlyGluTyrAspLysIleTyr-253
 257-PheAlaLysGluGlyGlyGlnAlaAlaLys-266

Hydrophilic Regions - Hopp-Woods

21-GlyGlnGlyLysAspAlaAlaAla-28
 49-GluSerLeuAspSerLysGlyAsnValGluGlyPheAsp-61
 91-AsnAsnGlyAspAlaAspVal-97
 104-IleThrAspAspArgLysGlnSerMetAspPheSer-115
 128-ProLysGlyLysLysValSerSerSerGluAspLeuLysLysMetAsnLys-144
 164-AspAsnProLysIleAlaArg-170
 179-LysGluLeuGluAsnGlyGlyLeu-186
 203-AsnProAlaLysGlyMetAsp-209
 225-ValArgLysGlyAspGluAlaThrVal-233
 235-MetLeuAsnAspAlaLeuGluLysValArgGluSerGlyGluTyrAspLysIleTyr-253
 257-PheAlaLysGluGlyGlyGlnAlaAlaLys-266

g982**AMPHI Regions - AMPHI**

10-ArgPheLeuGlnLysMetValAsnGlyValAsnIleLeuProAlaAlaAspTrp-27
 70-AlaGlnMetValLysGluValAlaSerLysThr-80
 99-ValAlaGluGlyMetLysTyr-105

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114-AspLeuLysArgGlyIleAspLysAlaValAlaAlaLeuValGluGluLeuLysAsnIleAlaLysProCys
 AspThrSerLysGluIleAlaGlnValGlySer-148
 159-AlaIleIleAlaGluAlaMetGluLysValGly-169
 184-AsnGluLeuAspValValGluGlyMet-192
 208-GluLysGlnIleAlaGlyLeuAsp-215
 226-IleSerAsnIleArgAspLeuLeuProValLeuGluGlnValAlaLysAla-242
 264-AsnAsnIleArgGlyIleLeuLysThrValAla-274
 312-ThrLeuAspAspLeuGlyGlnThrLysArg-321
 330-ThrValIleAspGlyPheGlyAspAlaAla-339
 366-GluArgValAlaLysLeuAlaGlyGlyVal-375
 425-LeuGluAsnLeuHisThr-430
 443-LeuArgAlaValGluSerProLeuArgGlnIleValAlaAsnAla-457
 483-GluTyrGlyAspMetIleGlyMet-490
 499-ThrArgSerAlaLeu-503

Antigenic Index - Jameson-Wolf

1-AlaSerGlnAsnLeuArgPheAspAsnArgPheLeu-12
 31-GlyAlaLysGlyArgAsnValVal-39
 42-AlaPheGlyGlyProHisIleThrLysAspGlyValThrValAlaLysGluIleGluLeuLysAspLysPheGluAsnMetGly-69
 72-MetValLysGluValAlaSerLysThrAsnAspValAlaGlyAspGlyThrThr-89
 111-AsnProThrAspLeuLysArgGlyIleAspLysAlaVal-123
 128-GluGluLeuLysAsnIleAlaLysProCysAspThrSerLysGluIleAla-144
 149-IleSerAlaAsnSerAspGluGlnVal-157
 163-GluAlaMetGluLysValGlyLysGluGlyValIleThrValGluAspGlyLysSerLeuGluAsnGluLeuAspVal-188
 192-MetGlnPheAspArgGlyTyr-198
 206-AspAlaGluLysGlnIleAla-212
 222-PheAspLysLysIleSerAsnIleArgAsp-231
 238-GlnValAlaLysAlaSerArg-244
 251-GluAspValGluGlyGluAla-257
 265-AsnIleArgGlyIleLeu-270
 277-AlaProGlyPheGlyAspArgArgLysAlaMetLeu-288
 300-IleSerGluGluValGlyLeuSerLeuGluLysAlaThrLeuAspAspLeuGlyGlnThrLysArgIleGluIleGlyGluGluAsnThrThr-330
 333-AspGlyPheGlyAspAlaAlaGlnIleGluAlaArgValAlaGluIleArgGlnGlnIleGluThrAlaThrSerAspTyrAspLysGluLysLeuGlnGluArgValAlaLysLeuAlaGly-373
 384-ThrGluValGluMetLysGluLysLysAspArgValGluAspAlaLeuHis-400
 404-AlaAlaValGluGluGlyVal-410
 420-ArgAlaArgAlaAlaLeu-425
 428-LeuHisThrGlyAsnAlaAspGlnAspAlaGlyVal-439
 445-AlaValGluSerProLeuArg-451
 456-AsnAlaGlyGlyGluProSerVal-463
 468-ValLeuGluGlyLysGlyAsnTyrGlyTyr-477
 479-AlaGlySerGlyGluTyrGlyAsp-486
 494-AspProAlaLysValThrArgSerAlaLeu-503
 522-GluIleProGluGluLysProAlaValProAspMetGlyGly-535

Hydrophilic Regions - Hopp-Woods

5-LeuArgPheAspAsn-9
 32-AlaLysGlyArgAsnValValVal-39
 47-HisIleThrLysAspGlyValThrValAlaLysGluIleGluLeuLysAspLysPheGluAsn-67
 72-MetValLysGluValAlaSerLysThrAsnAspValAlaGlyAspGlyThrThr-89
 113-ThrAspLeuLysArgGlyIleAspLysAlaVal-123
 128-GluGluLeuLysAsnIleAlaLysProCysAspThrSerLysGluIleAla-144

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151-AlaAsnSerAspGluGlnVal-157
 163-GluAlaMetGluLysValGlyLysGluGlyValIleThrValGluAspGlyLysSerLeuGluAsnGluLeu
 AspVal-188
 206-AspAlaGluLysGlnIleAla-212
 222-PheAspLysLysIleSerAsnIleArgAsp-231
 238-GlnValAlaLysAlaSerArg-244
 251-GluAspValGluGlyGluAla-257
 279-GlyPheGlyAspArgArgLysAlaMetLeu-288
 300-IleSerGluGluValGlyLeuSerLeuGluLysAlaThrLeuAspAspLeuGlyGlnThrLysArgIleGlu
 IleGlyGluGluAsnThrThr-330
 339-AlaGlnIleGluAlaArgValAlaGluIleArgGlnGlnIleGluThrAlaThrSerAspTyrAspLysGlu
 LysLeuGlnGluArgValAlaLys-370
 384-ThrGluValGluMetLysGluLysLysAspArgValGluAspAlaLeuHis-400
 404-AlaAlaValGluGluGlyVal-410
 420-ArgAlaArgAlaAlaLeu-425
 431-GlyAsnAlaAspGlnAspAla-437
 445-AlaValGluSerProLeu-450
 457-AlaGlyGlyGluPro-461
 468-ValLeuGluGlyLysGly-473
 480-GlySerGlyGluTyrGlyAsp-486
 494-AspProAlaLysValThrArg-500
 522-GluIleProGluGluLysProAlaVal-530

g986**AMPHI Regions - AMPHI**

6-GlnTyrPheAlaLeuAlaAlaLeuCysAlaAlaLeuLeuAla-19
 21-CysGluLysAlaGly-25
 36-SerPheValGluArgIleGluHis-43
 55-ProAspPheAlaGlnLeuValGln-62
 97-AspProPheTyrGluPhePheLysArgLeuValProAsnMetProGluIleProGln-115
 145-AlaGlyMetGlySerIle-150
 162-AlaLysLeuIleGlySerAspVal-169
 189-IleGlyAsnProLysAsnLeuLysProGly-198
 200-TrpValAlaAlaIleGly-205
 287-AlaGluGlnLeuLysAsnThrGlyLysVal-296
 393-AlaAlaGluHisThrGly-398
 471-ArgLysAlaMetAspLysAla-477

Antigenic Index - Jameson-Wolf

20-GlyCysGluLysAlaGlySer-26
 29-GlyAlaAspLysLysGluAlaSerPheValGluArgIleGluHisThrLysAspAspGlySerVal-50
 61-ValGlnSerGluGlyProAla-67
 75-ProAlaProArgThrGlnAsnGlySerGlyAsnAlaGluThrAspSerAspProLeuAlaAspSerAspProP
 he-99
 104-LysArgLeuValProAsnMetProGluIleProGlnGluGluAlaAspAspGlyGlyLeu-123
 154-LeuAsnAspLysArgGluTyrThr-161
 165-IleGlySerAspValGlnSerAspValAla-174
 179-AspAlaThrGluGluLeuPro-185
 189-IleGlyAsnProLysAsnLeuLysProGlyGlu-199
 208-PheGlyPheAspAsnSerVal-214
 219-ValSerAlaLysGlyArgSerLeuProAsnGluSerTyr-231
 242-AsnProGlyAsnSerGlyGlyPro-249
 265-TyrSerArgSerGlyGly-270
 288-GluGlnLeuLysAsnThrGlyLysValGlnArgGlyGlnLeu-301
 316-PheGlyLeuAspLysAlaSerGly-323
 330-LeuProGlySerProAlaGluArgAlaGlyLeuGlnAlaGlyAsp-344

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349-LeuAspGlyGlyGluIleArgSerSerGlyAspLeu-360
 368-ThrProGlyLysGluValSer-374
 378-TrpArgLysGlyGluGluIleThrIle-386
 394-AlaGluHisThrGlyAlaSerSerLysThrAspGluAlaProTyrThrGluGlnGlnSerGlyThrPhe-416
 427-ThrHisThrAspSerSerGlyLysHis-435
 440-ArgValSerAspAlaAlaGluArgAlaGlyLeuArgArgGlyAspGluIleLeu-457
 463-ProValAsnAspGluAlaGlyPheArgLysAlaMetAspLysAlaGlyLysAsnVal-481
 486-MetArgArgGlyAsnThr-491

Hydrophilic Regions - Hopp-Woods

20-GlyCysGluLysAlaGly-25
 29-GlyAlaAspLysLysGluAlaSerPheValGluArgIleGluHisThrLysAspAspGlySer-49
 75-ProAlaProArgThrGlnAsnGlySerGlyAsnAlaGluThrAspSerAspProLeuAlaAspSerAspPro-98
 111-ProGluIleProGlnGluGluAlaAspAspGlyGly-122
 154-LeuAsnAspLysArgGluTyrThr-161
 179-AspAlaThrGluGluLeuPro-185
 193-LysAsnLeuLysPro-197
 221-AlaLysGlyArgSerLeuPro-227
 288-GluGlnLeuLysAsnThrGlyLysValGlnArgGlyGln-300
 317-GlyLeuAspLysAlaSer-322
 333-SerProAlaGluArgAlaGlyLeuGln-341
 350-AspGlyGlyGluIleArgSerSerGlyAsp-359
 368-ThrProGlyLysGluValSer-374
 379-ArgLysGlyGluGluIleThrIle-386
 394-AlaGluHisThrGlyAlaSerSerLysThrAspGluAlaProTyrThrGluGlnGlnSer-413
 428-HisThrAspSerSerGly-433
 440-ArgValSerAspAlaAlaGluArgAlaGlyLeuArgArgGlyAspGluIleLeu-457
 463-ProValAsnAspGluAlaGlyPheArgLysAlaMetAspLysAlaGlyLys-479
g987

AMPHI Regions - AMPHI

17-CysSerSerTrpLeu-21
 65-ProHisGluAlaPhe-69
 121-AsnThrArgGly-124
 135-HisProAsnIleValIArgLeuPheAsnProPheValLeuArgLysTrpArgAlaLeuGlyTyrLeuThrAspPheProArgLeuAsnArg-164
 186-GlyAspGluTyrPheLysVal-192
 201-LeuAspIleLeuAlaThr-206
 210-ValGlyGluValSerHisAspPheAspArgTyrTrpAla-222
 229-AlaThrArgIleIleArgSerGly-236
 238-IleGlyLysGlyLeuGlnAla-244
 288-SerAspSerProAlaLysGlyLeuAspArg-297
 306-GlyArgLeuGlnAspAlaLeuLysGlnPro-315
 332-GlyThrAspAlaLeuAlaLysLeuValGlnAsp-342
 354-GlnAlaThrAspValAlaAla-360
 442-LysIleAlaGluGlnMetGluArgThrLeuAlaAspThrThrPro-456
 485-ProGluAlaLysLeuTrpLysArgIleAlaAlaLysIleLeuSerLeuLeuProIleGluGlyLeu-506

Antigenic Index - Jameson-Wolf

1-MetLysThrArgSer-5
 23-ProLeuGluGluArgThrGluSerArgHisPheAsnThrSerLysProValLeu-40
 49-HisThrProHisAsnAsnGlyLeuSer-57
 77-GluSerAlaGluHisSerLeu-83
 90-TrpArgAsnAspIleSerGlyArgLeu-98

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107-AlaGluArgGlyValArg-112
 115-LeuLeuLeuAspAspAsnAsnThrArgGlyLeuAsp-126
 134-SerHisProAsnIle-138
 158-AspPheProArgLeuAsnArgArgMetHisAsnLysSerPheThrAlaAspAsnArgAla-177
 181-GlyGlyArgAsnIleGlyAspGluTyrPheLysValGlyGluAspThrVal-197
 213-ValSerHisAspPheAspArgTyrTrp-221
 224-HisSerAlaHisAsn-228
 231-ArgIleIleArgSerGlyAsnIleGlyLysGlyLeu-242
 246-GlyTyrAsnAspGluThrSerArg-253
 258-ArgTyrArgGluThrValGlu-264
 266-SerProLeuTyrGln-270
 272-IleGlnThrGlyArgIleAsp-278
 286-LeuIleSerAspSerProAlaLysGlyLeuAspArgAspArgArgLysProProIle-304
 307-ArgLeuGlnAspAlaLeuLysGlnProGluLysSer-318
 327-ValProThrLysSerGlyThrAspAlaLeu-336
 339-LeuValGlnAspGlyIleAsp-345
 366-ValLysTyrArgLysProLeuLeu-373
 390-AlaThrLysAspLysGlyLeuThrGlySerSerVal-401
 411-ValAspGlyLysArgIlePhe-417
 421-PheAsnLeuAspProArgSerAlaArgLeuAsnThr-432
 439-GluSerProLysIleAlaGluGlnMetGluArgThrLeuAlaAspThrThrProGluTyrAlaTyr-460
 462-ValThrLeuAspLysHisAsnArgLeuGlnTrpHisAspProAlaThrArgLysThrTyrProAsnGluPro
 GluAlaLysLeuTrpLys-491

Hydrophilic Regions - Hopp-Woods

1-MetLysThrArgSer-5
 24-LeuGluGluArgThrGluSerArgHisPheAsnThr-35
 77-GluSerAlaGluHisSerLeu-83
 107-AlaGluArgGlyValArg-112
 115-LeuLeuLeuAspAspAsnAsnThrArgGlyLeuAsp-126
 160-ProArgLeuAsnArgArgMetHisAsn-168
 171-PheThrAlaAspAsnArgAla-177
 188-GluTyrPheLysValGlyGluAspThrVal-197
 213-ValSerHisAspPheAspArg-219
 247-TyrAsnAspGluThrSerArg-253
 258-ArgTyrArgGluThrValGlu-264
 273-GlnThrGlyArgIleAsp-278
 290-SerProAlaLysGlyLeuAspArgAspArgArgLysProProIle-304
 307-ArgLeuGlnAspAlaLeuLysGlnProGluLysSer-318
 330-LysSerGlyThrAspAlaLeu-336
 339-LeuValGlnAspGlyIleAsp-345
 366-ValLysTyrArgLysProLeuLeu-373
 390-AlaThrLysAspLysGlyLeuThr-397
 423-LeuAspProArgSerAlaArgLeuAsnThr-432
 439-GluSerProLysIleAlaGluGlnMetGluArgThrLeuAla-452
 463-ThrLeuAspLysHisAsnArg-469
 475-ProAlaThrArgLysThrTyrProAsnGluProGluAlaLysLeuTrpLys-491
g988

AMPHI Regions - AMPHI

45-SerLysIleGluSerLeuAlaArg-52
 125-GlnMetArgGlyVal-129
 154-AspIleValGluArgAlaGlnSerLysVal-163
 221-AlaLysIleIleGluValLeuGlyAspTyrAlaAsp-232

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248-HisArgPheSerGluAlaCysAlaLysSerAlaLysLysIleProAspHisValArgLys-267
 288-ThrAlaArgAspPheAspAsp-294
 299-GluLysValGlyArgAsnTyr-305
 310-AlaIleAlaAspValSerHisTyrValArgProAspAsp-322
 348-AsnLeuSerAsnGly-352
 396-AsnGlnValTrpLysTrpLeuSerAspGlyIleGlyAsnProHisLys-411
 413-GlnIleAspThrLeuTyrLysLeuPheLysIleLeuGlnLys-426
 494-LeuGlyProThrProGluLysLeuAlaThrLeu-504
 524-LysAspTyrAlaAlaLeuAlaGluGlnPheLys-534
 544-ValMetMetLeuArgSerMetGlnGlnAla-553
 555-TyrGluProHisCys-559
 569-AlaTyrAlaHisPheThrSerProIleArgArgTyrProAspLeuThrValHisArgAlaIleLysAlaVal-592
 618-AlaAspAspAlaGlyArgAspValGluAsnTrpLeuLys-630
 641-IlePheGluGlyLysIleSerArgGly-649
 653-PheGlyIlePheValThrLeu-659
 667-LeuValHisIleSerAspLeuGlyGlu-675

Antigenic Index - Jameson-Wolf

1-MetAsnLysAsnIleLys-6
 8-LeuAsnLeuArgGluLysAspProPheLeuSerArgGluLysGlnArgTyrGluHisProLeuProSerArgGluTrpIle-34
 37-LeuLeuGluArgLysGlyValProSerLysIleGluSerLeuAlaArgGluLeuSerIleThrGluAspGluTyrValPhePheGluArgArgLeuLysAlaMetAlaArgAspGlyGln-76
 79-IleAsnArgArgGlyAlaVal-85
 87-AlaAlaAspLysLeuAspLeuValLysCysArgValGluAlaHisLysAspGlyPhe-105
 113-ProMetAspGluGlyAsp-118
 124-ArgGlnMetArgGlyValMetHisGlyAspThrValThr-136
 138-ArgProAlaGlyMetAspArgArgGlyArgArgGluGlyThrPhe-152
 154-AspIleValGluArgAlaGlnSerLysValVal-164
 168-TyrMetAspArgGlyValAla-174
 176-LeuGluProGluAspLysArgLeuAsnGlnSerIle-187
 189-LeuGluProAspGlyValAlaArgPheLysProGluSerGlyGln-203
 210-GluValTyrProGluGlnAsnArgProAlaVal-220
 227-LeuGlyAspTyrAlaAspSerGlyMetGluIle-237
 239-IleAlaValArgLysHisHisLeuProHisArgPheSerGluAlaCysAlaLysSerAlaLysLysIleProAspHisValArgLysSerAspLeuLysGlyArgValAspLeuCys-277
 283-ThrIleAspGlyGluThrAlaArgAspPheAspAsp-294
 299-GluLysValGlyArgAsnTyrArg-306
 316-HisTyrValArgProAspAspAlaIleAspAlaAspAlaGlnGluArgSerThrSerValTyrPheProArgArgMetIleProMetLeuProGluAsnLeuSerAsnGlyIleCysSerLeuAsnProAspValGluArgLeu-363
 374-AlaGlyAsnIleLysGluTyrArgPhe-382
 393-LeuThrTyrAsnGln-397
 402-LeuSerAspGlyIleGlyAsnProHisLysAlaGlnIle-414
 424-LeuGlnLysLysArgLeuAlaArgGlyAlaValGluPheGluSerValGlu-440
 443-MetIlePheAspAspAsnGlyLysIleGluLys-453
 458-ValArgAsnAspAlaHisLysLeuIleGlu-467
 482-LeuLysAsnLysHisThrAla-488
 493-HisLeuGlyProThrProGluLysLeuAlaThrLeuArgGluGlnLeu-508
 516-GlyGlyGlyAspAsnProSerProLysAspTyrAlaAla-528
 531-GluGlnPheLysGlyArgProAspAlaGluLeu-541
 555-TyrGluProHisCysGluGlyHis-562
 575-SerProIleArgArgTyrProAspLeuThrVal-585
 592-ValLeuAsnArgLysThrTyrThrProAsnLysSerTrp-604

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613-PheCysGluArgArgAlaAspAlaGlyArgAspValGluAsn-627
 633-TyrMetArgAspLysValGlyGluIlePheGluGlyLysIleSerArgGlyValAla-651
 671-SerAspLeuGlyGluAspTyrPheAsnPheArgPro-682
 684-IleMetAlaIleGluGlyGluArgSerGlyIleArgPheAsnMetGlyAspArgValAlaValArgValAla
 ArgAlaAspLeuAspAspGlyLysIle-716
 724-GluSerGlyArgArgArgLysValLysLeu-733
 735-AlaSerAlaLysProAlaGlyAlaAlaGlyLysGlyLysSerLysThrThrAlaGluLysLysThrAlaArg
 CysGlyLysValArgGlyArgGlyValProAla-769
 771-AlaGluSerGlyLysLysAlaLysLysProValProIleLysValLysLysArgLysGlyLysSer-792

Hydrophilic Regions - Hopp-Woods

1-MetAsnLysAsnIleLys-6
 8-LeuAsnLeuArgGluLysAspProPheLeuSerArgGluLysGlnArgTyrGluHis-26
 37-LeuLeuGluArgLysGlyValProSerLysIleGluSerLeuAlaArgGluLeuSerIleThrGluAspGluT
 yrValPhePheGluArgArgLeuLysAlaMetAlaArgAspGlyGln-76
 79-IleAsnArgArgGlyAla-84
 87-AlaAlaAspLysLeuAspLeuValLysCysArgValGluAlaHisLysAspGlyPhe-105
 113-ProMetAspGluGlyAsp-118
 140-AlaGlyMetAspArgArgGlyArgArgGluGlyThr-151
 155-IleValGluArgAlaGlnSerLysValVal-164
 176-LeuGluProGluAspLysArgLeuAsn-184
 189-LeuGluProAspGlyValAlaArgPheLysProGluSerGly-202
 210-GluValTyrProGluGlnAsnArgProAlaVal-220
 230-TyrAlaAspSerGlyMetGluIle-237
 239-IleAlaValArgLysHisHisLeu-246
 249-ArgPheSerGluAlaCysAlaLysSerAlaLysLysIleProAspHisValArgLysSerAspLeuLysGly
 ArgValAspLeu-276
 284-IleAspGlyGluThrAlaArgAspPheAspAsp-294
 299-GluLysValGlyArgAsnTyr-305
 318-ValArgProAspAspAlaIleAspAlaAspAlaGlnGluArgSerThr-333
 358-ProAspValGluArg-362
 376-AsnIleLysGluTyrArg-381
 406-IleGlyAsnProHisLysAlaGlnIle-414
 424-LeuGlnLysLysArgLeuAlaArgGlyAlaValGluPheGluSerValGlu-440
 443-MetIlePheAspAspAsnGlyLysIleGluLys-453
 458-ValArgAsnAspAlaHisLysLeuIleGlu-467
 496-ProThrProGluLysLeuAlaThrLeuArgGluGlnLeu-508
 517-GlyGlyAspAsnProSerProLysAspTyrAlaAla-528
 531-GluGlnPheLysGlyArgProAspAlaGluLeu-541
 576-ProIleArgArgTyrProAsp-582
 592-ValLeuAsnArgLysThrTyrThrPro-600
 613-PheCysGluArgArgAlaAspAlaGlyArgAspValGluAsn-627
 633-TyrMetArgAspLysValGlyGluIlePheGluGlyLysIleSerArg-648
 684-IleMetAlaIleGluGlyGluArgSerGlyIle-694
 697-AsnMetGlyAspArgValAlaValArgValAlaArgAlaAspLeuAspAspGlyLysIle-716
 724-GluSerGlyArgArgArgLysValLysLeu-733
 735-AlaSerAlaLysProAlaGlyAlaGlyLysGlyLysSerLysThrThrAlaGluLysLysThrAlaArg
 CysGlyLysValArgGlyArgGly-766
 771-AlaGluSerGlyLysLysAlaLysLysProValProIleLysValLysLysArgLysGlyLysSer-792

g989**AMPHI Regions - AMPHI**

36-AlaGlnSerThrAlaAsnAlaAla-43
 53-AlaGlyLeuThrLysLeu-58
 80-SerAlaThrAspPhe-84

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104-ProHisIleTyrGlyAla-109
 178-GluLeuArgLysTyrAlaAspGlyIle-186
 195-AlaThrProSerAsnProThr-201
 287-ValThrProGluSer-291
 293-SerValHisGlyMetTyrLysValSer-301
 312-TrpThrArgHisSerArg-317
 357-SerTyrGlnIleSerGluPro-363
 439-SerCysAlaArgPheLysAsnHisAlaAsp-448

Antigenic Index - Jameson-Wolf

41-AsnAlaAlaAspAlaSer-46
 52-ProAlaGlyLeuThrLysLeuAspSerSerGlnIle-63
 76-TyrGluAlaAspSerAlaThrAspPheThr-85
 89-ValGlnGlySerLysAsnGlyLysIleThrLysThrThr-101
 111-LysValAsnAspAsnLeuThr-117
 127-GlySerAlaThrGluTyrGluLysAspSerValLeu-138
 141-AsnIleAsnLysLeuGly-146
 159-LysLeuAsnGluArgHisSerPheGly-167
 174-HisAsnSerAlaGluLeuArgLysTyrAlaAspGlyIleProLysLysAlaGln-191
 196-ThrProSerAsnPro-200
 206-IleLysAlaAspGlyHisAlaAspValLysGlySerAspTrpGly-220
 230-AspIleAsnAspArgAlaArgValGlyValAsnTyrArgSerLysValSerHisThrLeuLysGlyAspAla
 GluTrpAlaAla-257
 259-GlyAlaAlaAlaLysGlnGlnTrpAsnAspAsnMet-270
 278-AlaAsnGluLysAlaSerVal-284
 287-ValThrProGluSer-291
 298-TyrLysValSerAspLysAlaAspLeu-306
 313-ThrArgHisSerArgPheAsnLys-320
 323-LeuPhePheGluLysGluLysAsnIleAlaAsnGlyLysLysSerAspArgThrThrIleThrProAsnTrp
 ArgAsnThrTyrLys-351
 353-GlyLeuGlyGlySerTyrGlnIleSerGlu-362
 372-PheAspLysProProValArgAsnAlaAspTyrArgMetAsnSerLeuProAspGlyAsnArg-392
 402-HisIleGlyLysAsnHisVal-408
 419-AsnAspThrSerTyrArgThrAlaLysAlaSerGlyAsnAspValAspSerLysGlyAlaSerCysAlaArg
 PheLysAsnHisAla-447

Hydrophilic Regions - Hopp-Woods

56-ThrLysLeuAspSerSerGln-62
 76-TyrGluAlaAspSerAlaThr-82
 90-GlnGlySerLysAsnGlyLysIleThrLys-99
 130-ThrGluTyrGluLysAspSerValLeu-138
 159-LysLeuAsnGluArgHisSer-165
 175-AsnSerAlaGluLeuArgLysTyrAlaAspGlyIleProLysLysAlaGln-191
 206-IleLysAlaAspGlyHisAlaAspValLysGlySerAsp-218
 231-IleAsnAspArgAlaArgVal-237
 241-TyrArgSerLysVal-245
 249-LeuLysGlyAspAlaGluTrpAlaAla-257
 278-AlaAsnGluLysAlaSerVal-284
 299-LysValSerAspLysAlaAspLeu-306
 316-SerArgPheAsnLys-320
 323-LeuPhePheGluLysGluLysAsnIleAlaAsnGlyLysLysSerAspArgThrThrIle-342
 372-PheAspLysProProValArgAsnAlaAspTyrArgMet-384
 386-SerLeuProAspGlyAsn-391
 421-ThrSerTyrArgThrAlaLysAlaSerGlyAsnAspValAspSerLysGlyAlaSer-439
 441-AlaArgPheLysAsnHisAla-447

g992**AMPHI Regions - AMPHI**

6-ArgHisLeuLysAsnMetGlnIleLysLysIleMetLysTrp-19
 24-LeuSerLeuLeuGlyAlaLeuGlyTyr-32
 45-AlaValLeuAspValLeuGlyThr-52
 72-HisSerTyrThrGlyThrValSerLysValTyr-82
 140-TyrGlnArgGluValAlaGlnVal-147
 158-GlnValGlnAspGly-162
 179-AspPheAlaAspTyr-183

Antigenic Index - Jameson-Wolf

1-MetPheArgArgHisArgHisLeuLys-9
 33-ThrGlyTyrAspSerGluAlaValArg-41
 51-GlyThrAlaGlyAspValGlyPhe-58
 60-AlaProValArgArgAlaSerAlaLysSerGlyHisSerTyr-74
 79-SerLysValTyrAspGlyAspThr-86
 90-IleAspGlyAspGlyAlaLysHisLysIle-99
 105-AspAlaProGluMetLysGlnAlaTyrGlyThrArgSerArgAspAsnLeuArgAlaAlaGluGlyArg
 LysValSer-131
 134-ValPheGluThrAspArgTyrGlnArgGluValAla-145
 148-SerAlaGlyLysThrAspLeu-154
 168-LysSerTyrAlaLysGluGlnGlnAspLysAlaAspPhe-180
 187-GlnIleGlnAlaGluArgGluArgLysGlyLeuTrpLysAlaLysAsnProGlnAlaPro-206
 208-AlaTyrArgArgAlaGlyArgSerGlyGlyGlyAsnLysAspTrpMetAspSerValGlyGlu-228

Hydrophilic Regions - Hopp-Woods

1-MetPheArgArgHisArgHisLeuLys-9
 35-TyrAspSerGluAlaValArg-41
 60-AlaProValArgArgAlaSerAlaLysSerGlyHis-72
 80-LysValTyrAspGlyAspThr-86
 90-IleAspGlyAspGlyAlaLysHisLysIle-99
 105-AspAlaProGluMetLysGln-111
 113-TyrGlyThrArgSerArgAspAsnLeuArgAlaAlaAlaGluGlyArgLysValSer-131
 134-ValPheGluThrAspArgTyrGlnArgGluValAla-145
 148-SerAlaGlyLysThrAspLeu-154
 169-SerTyrAlaLysGluGlnGlnAspLysAlaAspPhe-180
 187-GlnIleGlnAlaGluArgGluArgLysGlyLeuTrpLysAlaLysAsnPro-203
 211-ArgAlaGlyArgSerGlyGlyGlyAsnLysAspTrpMetAspSerVal-226

g993**AMPHI Regions - AMPHI**

6-GlySerPheGlnGlyProLeuAspLeuLeuLeu-16
 35-ThrGlyGlnTyrLeuHisTyrIleAlaGlnMet-45
 105-GlyLeuAspAlaLeuProArgAla-112
 133-GluValTyrIleAlaAspLeuMetGlnAlaTrpLeuGly-145
 152-HisThrArgSerHisGluValIle-159
 169-MetThrAlaIleLeuArgArgLeuAsnGluHisGlyIleCysArgPheHisAlaLeuPheAsn-189
 198-IleValAsnPheIleAlaLeuLeu-205

Antigenic Index - Jameson-Wolf

7-SerPheGlnGlyProLeu-12
 20-ArgLysGlnAsnIleAsp-25
 70-LeuLeuLeuProArgTrpGluAlaValGluAspGluGluAlaAspProArgAlaGluLeuValArg-91
 108-AlaLeuProArgAlaGlyArgAspPhe-116

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125-IleAlaAlaGluThrLysLeuPro-132
 148-SerArgAlaLysHisThrArgSerHisGluValIleGln-160
 174-ArgArgLeuAsnGluHisGlyIle-181
 189-AsnProGluGlnGly-193
 207-LeuAlaLysGluGlyLeu-212
 216-ValGlnGluAspGlyPheGlyGluIleArgIle-226
 228-LeuAsnHisGluGlyAlaHisSerAspGlyIlePheGlyThrArgGlyGlyArgAspValPhe-248

Hydrophilic Regions - Hopp-Woods

20-ArgLysGlnAsnIleAsp-25
 70-LeuLeuLeuProArgThrGluAlaValGluAspGluGluAlaAspProArgAlaGluLeuValArg-91
 108-AlaLeuProArgAlaGlyArg-114
 125-IleAlaAlaGluThrLysLeuPro-132
 148-SerArgAlaLysHisThrArgSerHisGluValIleGln-160
 174-ArgArgLeuAsnGlu-178
 207-LeuAlaLysGluGlyLeu-212
 216-ValGlnGluAspGlyPheGly-222
 242-ArgGlyGlyArgAspValPhe-248

g996**AMPHI Regions - AMPHI**

21-LysSerAlaArgThrHisAlaLysIlePro-30
 50-ProGlyGluSerTyrProAlaGlnLeuGlnLysLeuThrGlyTrpAsn-65
 75-ThrSerAlaGlnAlaLeuSerArgLeuProAla-85
 104-LeuArgLysValProGluGlu-110
 115-AsnIleAlaLysIleIleGluThrValGlnLys-125
 140-LeuGlyAlaLeuPheGlyHisLeuSerAsp-149
 167-GluAlaTrpAlaGlu-171
 186-AsnGlyLysGlyTyrArgLysPheAlaGluAsnLeuAsnGlnPheLeuArgLysHisGlyPhe-206

Antigenic Index - Jameson-Wolf

1-MetAsnArgArgThrPhe-6
 18-CysGlyArgLysSerAlaArgThrHisAlaLysIleProGluGlySerThr-34
 46-TyrGlyAlaAsnProGlyGluSerTyrPro-55
 69-GlyGlyValSerGlyAspThrSerAla-77
 87-LeuAlaArgLysProLys-92
 99-GlyGlyAsnAspPheLeuArgLysValProGluGluGlnThrArgAlaAsnIle-116
 121-GluThrValGlnLysGluAsnIle-128
 148-SerAspHisProLeuTyrGluAspLeuSerGluGluTyrGly-161
 174-GlyAsnAsnAsnLeuLysSerAspGlnIleHisAlaAsnGlyLysGlyTyrArgLysPheAlaGluAsnLeu
 AsnGlnPheLeuArgLysHisGlyPheArg-207

Hydrophilic Regions - Hopp-Woods

18-CysGlyArgLysSerAlaArgThrHisAlaLysIleProGlu-31
 49-AsnProGlyGluSerTyr-54
 71-ValSerGlyAspThrSerAla-77
 87-LeuAlaArgLysProLys-92
 102-AspPheLeuArgLysValProGluGluGlnThrArgAlaAsnIle-116
 121-GluThrValGlnLysGluAsnIle-128
 154-GluAspLeuSerGluGluTyrGly-161
 177-AsnLeuLysSerAspGlnIleHisAlaAsn-186
 188-LysGlyTyrArgLysPheAlaGlu-195

g997**AMPHI Regions - AMPHI**

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18-TrpAlaGlyLeuSerAlaAlaVal-25
 70-TyrArgGlyValLeuArgLeuMetLysThrIleGly-81
 107-ProLeuProAlaProLeuHisIle-114
 123-ArgValProSerAlaPheLysAlaLysLeuLeuAlaAspMetSerAspLeuGlnLysSerAlaArgLeuGly-146
 164-AlaAlaValMetGlnPheTrpGlnProLeuValTrpGly-176
 189-ValLeuCysAsnValLeuSerAsp-196
 222-AlaLeuAlaGluLeuGlnArg-228
 241-ArgLeuAsnThrLeuPro-246
 275-GluGlyThrProGluHisValGlnThrAla-284
 300-TyrAlaGluProValArgLeuProAlaProLeuThrGlyIleAlaAspGly-316

Antigenic Index - Jameson-Wolf

3-AsnThrProHisProArgProLysIle-11
 37-GluAlaGlyArgGlnAlaGlyGlyArgAlaArgThrLeuAlaGlyAsnThrAspGlyPheGly-57
 78-LysThrIleGlySerAspProArgAlaAla-87
 122-ArgArgValProSerAlaPheLys-129
 132-LeuLeuAlaAspMetSerAspLeuGlnLysSerAlaArgLeuGlyGlnProAspThrThr-151
 156-LeuLysGlnArgAsnValProArg-163
 180-ThrProLeuGluThrAlaSer-186
 197-GlyValLeuThrLysLysSerGlySerAspTyrLeuLeuProLysGlnAspLeu-214
 225-GluLeuGlnArgLeuGlyAlaAspIleArgLeuGluThrArgValCysArg-241
 243-AsnThrLeuProAspGlyLysVal-250
 273-LeuProGluGlyThrProGluHisVal-281
 324-ProGlyGlnAlaProAspCysProGlnAsnGluValSer-336
 341-ValSerAspArgValGlyAlaPheAlaAsnArgTerTerTerTer-355

Hydrophilic Regions - Hopp-Woods

5-ProHisProArgProLysIle-11
 37-GluAlaGlyArgGlnAlaGlyGlyArgAlaArgThrLeuAlaGlyAsn-52
 80-IleGlySerAspProArgAlaAla-87
 122-ArgArgValProSer-126
 132-LeuLeuAlaAspMetSerAspLeuGlnLysSerAlaArgLeuGlyGlnProAspThrThr-151
 198-ValLeuThrLysLysSerGlySer-205
 208-LeuLeuProLysGlnAspLeu-214
 225-GluLeuGlnArgLeuGlyAlaAspIleArgLeuGluThrArgValCysArg-241
 246-ProAspGlyLysVal-250
 276-GlyThrProGluHisVal-281
 326-GlnAlaProAspCysProGlnAsnGluVal-335
 341-ValSerAspArgValGly-346

It will be understood that the invention is described above by way of example only and modifications may be made whilst remaining within the scope and spirit of the invention.

CLAIMS

1. A fragment of a protein disclosed in international patent application WO99/57280 or WO00/22430, wherein the fragment comprises at least one antigenic determinant.
2. The fragment of claim 1, having a length of 100 amino acids or less.
3. The fragment of claim 1 or claim 2, having a length of 5 amino acids or greater.
4. The fragment of any preceding claim, having an amino acid sequence disclosed in Table I.
5. A polypeptide having 50% or greater sequence identity to the fragment of any preceding claim.
6. A protein comprising one or more fragment of claim 1, claim 2 or claim 3, with the proviso that the protein is not one of the complete protein sequences disclosed in international patent application WO99/57280 or WO00/22430.
7. An antibody which recognises the fragment according to any one of claims 1 to 6.
8. A protein comprising a peptide sequence, wherein the peptide sequence is recognised by an antibody according to claim 7.
9. Nucleic acid encoding the fragment of claim 1, claim 2 or claim 3, the polypeptide of claim 5, or the protein of claim 6 or claim 8.
10. A composition comprising the fragment of claim 1, claim 2 or claim 3, the polypeptide of claim 5, the protein of claim 6 or claim 8, the antibody of claim 7, and/or the nucleic acid of claim 9, wherein the composition is a vaccine, a diagnostic reagent, or an immunogenic composition.
11. The composition of claim 10 for use as a medicament
12. The use of the fragment of claim 1, claim 2 or claim 3, the polypeptide of claim 5, the protein of claim 8, the antibody of claim 7, and/or the nucleic acid of claim 9, in the manufacture of (i) a medicament for treating or preventing infection due to Neisserial bacteria (ii) a diagnostic reagent for detecting the presence of Neisserial bacteria or of antibodies raised against Neisserial bacteria and/or (iii) a reagent which can raise antibodies against Neisserial bacteria.
13. A method of treating a patient, comprising administering to the patient a therapeutically effective amount of a composition according to claim 10.